

## Operation manual

# WIWA 2K-DUOMIX PU 460

### Type:

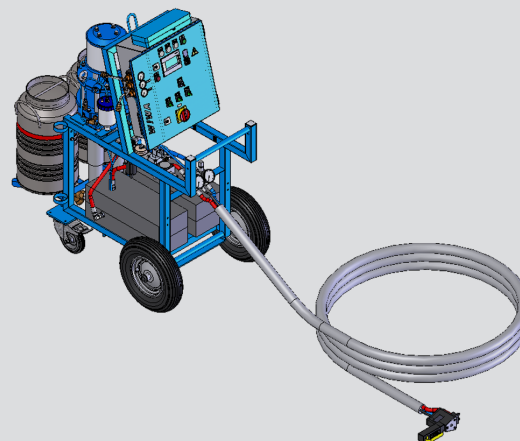
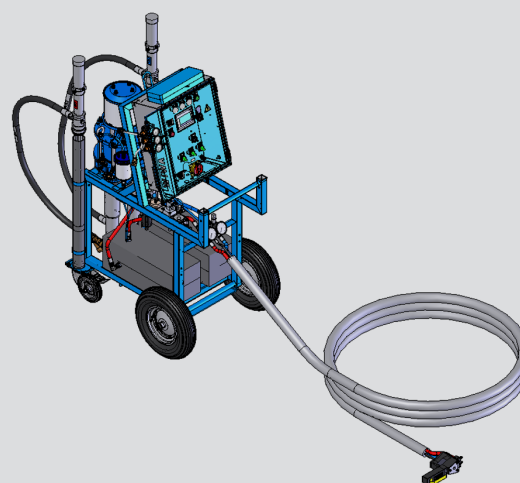
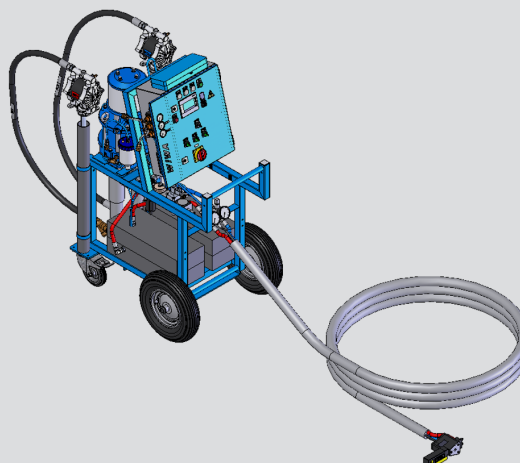
- ☐ 400V
- ☐ 230V / 1-phase
- ☐ 230V / 3-phase

### Variants with:

- ☐ Feed pumps
- ☐ Feed drums

### Serial-No.

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# 1 Foreword

Operating personnel should always have access to this user manual!

The owner of the unit must ensure that the operator of the unit always has an operating manual at his/her disposal in a language he/she understands!

All persons involved in the set-up, commissioning, operation, maintenance, repair and servicing of the machine must have read and understood the user manual beforehand, and the chapter on Safety in particular. We recommend to the owner of this unit to have this confirmed in writing

In principle you should refrain from any work method that would affect the safety of **WIWA®** products and the operating personnel.

Please read and comply with:

- the applicable guidelines for your country.  
In Germany, these are the “**Richtlinien für Flüssigkeitsstrahler**” (Guidelines for Liquid Jets), issued by: the Hauptverband der Gewerblichen Berufsgenossenschaften.
- The **manufacturer's instructions and processing guidelines** for coating or transfer materials are to be respected at all times.

This machine has been designed and manufactured under due consideration of all safety-related aspects. It corresponds to the current standard of technology and to applicable accident prevention regulations.

The machine left the factory in perfect condition and guarantees a high level of technical reliability and safety. Nevertheless, there are certain risks that can arise from incorrect operation or misuse:

- to life and limb of the operator or third party,
- to the machine and other material assets of the owner,
- to efficient work with the machine.

## **Notice about additional documentation:**

This user manual is only valid in combination with the following machine card.

The machine card contains all important and safety relevant data and information about the machine.

- exact designation and manufacturer data
- technical data and limiting values
- equipment and test certificate
- data of purchasing
- Machine identification (machine components and accessories with article and spare parts numbers)



### **Notice**

The data on the machine card must match the data on the type plate.

In case of discrepancies or if the type plate is missing please notify us immediately.

## 2 Safety Information

Please remember that dual component systems work with extremely high pressures and may cause life threatening injuries if used inappropriately.

Always pay attention to and follow all notes in the user manuals for the optionally offered accessory equipment.

### 2.1 Pictogrammes

The notices and symbols used in this manual have the following meanings:



**Danger!**

marks a potentially dangerous situation. Disregarding this information can result in severe or even fatal injuries!



**Attention!**

marks a potentially dangerous situation. Disregarding this information can result in severe injuries!



**Caution!**

marks a potentially dangerous situation. Disregarding this information can result in minor injuries!

**Caution!**

marks a potentially dangerous situation. Disregarding this information can result in material damage!



**Risk of explosion!**

Highlights a situation with potential danger of explosion. Disregarding this information can result in severe or even fatal injuries!



**Danger of electric shock!**

Highlights a dangerous situation caused by electrostatic charge. Disregarding this notice can result in severe or even fatal injuries!



**Danger of burning!**

Highlights a dangerous situation caused by a hot surface. Disregarding this information can result in severe injuries!



**Notice!**

Indicates an informative text passage.  
You should pay particular attention when reading it.

The following symbols indicate that protective equipment should be worn. With your health in mind you should always comply with the recommendations of the material manufacturer.



**Wear protective clothing**

Highlights the order to wear the prescribed protective clothing to protect against skin injuries caused by spraying material or gases.



**Wear ear defenders**

Highlights the order to use ear defenders in order to prevent your sense of hearing from being damaged by noise.



**Use eye protection**

Highlights the order to use eye protection in order to prevent your eyesight from being damaged by material splatter.



**Use a respiratory protection mask**

Highlights the order to use a respiratory protection mask in order to prevent your respiratory tract from being damaged by gases, fumes or dusts.



**Wear protective gloves**

Highlights the order to use protective gloves in order to prevent the skin from being damaged by burning.



**Drum “Poly” + “Iso” + “Cleaning Agent”**

Identifies a drum containing the material to be applied, which the user requires at the corresponding location in the manual.



**Drum “empty”**

Identifies an empty collecting vessel to be used by the user to collect contaminated spraying material.

## 2.2 Notes on the plant

Appropriate information signs and symbols on the machine refer to possible danger areas and must be respected at all costs.

Information signs and symbols must not be removed from the machine.

Damaged and illegible information signs and symbols must be replaced immediately.

The following signs can be found on the machine:

Warning label “Caution! Electric voltage” on control cabinet, (Fig. 2.1).



Fig. 2.1

Warning label "Caution! Hot surface" on adapter,  
(Fig. 2.2)



Fig. 2.2

## 2.3 General safety notes

### 2.3.1 Dangers caused by the spray jet



#### Attention!

The material leaves the spray gun under high pressure.  
Due to its cutting effect the spray jet can cause severe injuries by penetrating the skin or entering into the eyes.

- Never point the spray gun at yourself, other persons or other living beings.
- Do not hold your fingers or hands into the spray jet.
- Do not reach with your hands into the spray jet.



#### Attention!

Any unintended escape of material from the spray gun can cause damage to persons or property.

- Always secure the spray gun, even for shortest work breaks.
- Always make sure that the spray gun is properly secured before each use.



#### Attention!

Components which do not comply with the maximum permissible working pressure may quickly burst and cause severe injuries.  
Please check:

- Material hoses and hose assemblies must comply with the maximum working pressure and the required safety factor.
- Material hoses must be leak tight and free of kinks, signs of abrasion or bulges.
- Hose connections must be tight.



#### Attention!

From leakage points material can escape under very high pressure and cause serious bodily injuries and material damage.  
Never try to seal leakages on connections and high pressure hoses by hand or by wrapping fabric around them.

- Depressurize the the complete system.
- Replace defective components.
- Never repair material hoses.



### Attention!

In case of material congestion or agglomeration of material in the spraying system, residual pressures can still be present despite pressure discharge. In case of necessary repair work on the plant escaping residual pressures may cause accidents.

Please bear in mind:

- Repair work must only be performed by trained personnel.
- Be extremely careful when disassembling material hoses and spray gun.
- When disconnecting material hoses you should cover the screw fitting with a cloth to catch any escaping material sprays.
- Switch off the machine before starting maintenance and cleaning work on the unit and the spraying accessories, ()

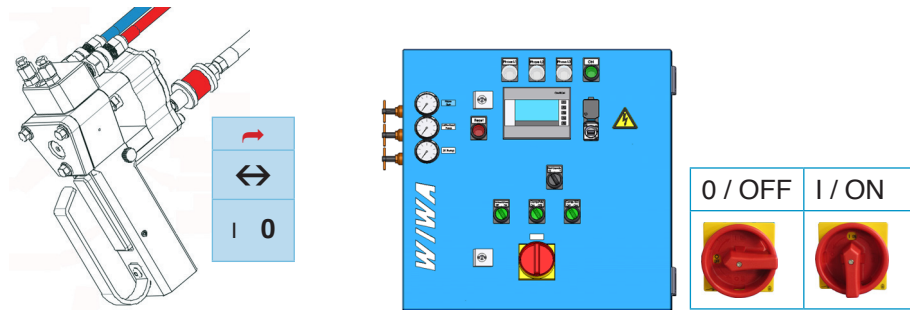


Fig. 2.3

## 2.3.2 Danger to health

In closed or pressurized systems, in which aluminium components or galvanized parts have contact with the cleaning agent, hazardous chemical reactions may occur when using 1.1.1-trichloroethane (TCE), methylene chloride or other solvents containing chlorinated hydrocarbons (CFCs). If you wish to use the aforementioned solvents or varnishes and paints containing such solvents, we advise you to consult the **WIWA®** - customer service or **WIWA®** directly.

We would like to point out that we have a series of dual component systems in rust and acid proof design available for such materials.

## 2.3.3 Notices on the permissible operating pressure

The maximum operating pressure specified by us must generally be adhered to for all **WIWA®** parts (e.g. pump, heater, hoses, spray gun, safety valve).

At varying operating pressures the lowest value is always valid as the maximum admissible operating pressure for the entire system.

General example:

Pump	up to 250 bar
Material hose	up to 600 bar
Spray gun	up to 240 bar

The maximum admissible operating pressure for the entire system in this example is 240 bar.



**Danger!**

Any sudden overpressure in the system can lead to the bursting of components. This may result in damage to persons and property.

- Never allow the system to run without safety valves.  
If the safety valve needs to be replaced, you can find the corresponding order number on the machine card.



**Notice!**

Changing the mixing ratio may cause a change in pressure ratio and thus require the adaptation of the max. permissible air inlet pressure. In this case the existing safety valve must be replaced. Consultation with **WIWA®** is highly recommended.

### 2.3.4 Danger caused by explosion



**Caution!**

The high flow velocities associated with the Airless spraying method may cause static charging. Static discharges can cause fire and explosion.

- Always use open containers!
- Never spray solvents or solvent containing materials into cone-top cans or drums with bunghole!
- Stand the containers on a grounded surface.
- When using metal containers watch out for contact between spray gun and container wall.
- Only use conductive material hoses. All original **WIWA®** material hoses are conductive and perfectly adapted to our equipment.



**Risk of explosion!**

Heating up cleaning agents can cause an explosion. This can cause severe injuries to body and eyes.

- Pay attention to the flashpoint and the ignition temperature of the cleaning-agent!
- Switch off the material flow heater if you need to perform the following work on the system:
  - Cleaning
  - Pressure tests
  - Preparation work
  - Decommissioning
  - Maintenance and repair

### 2.3.5 Danger caused by disregarding the explosion protection

The system must NOT be operated in explosion protection zones!

Spraying equipment designed without explosion protection must not be used in workshops that come under the explosion protection ordinance.

## 2.4 Operating personnel

Juveniles under the age of 16 have no permission to operate this equipment.

The owner of the machine must ensure that the user manual is made available to the user and make sure that the user has read and understood its contents.

Setup, cleaning, maintenance and repair work:

**Before starting** work you must interrupt the compressed air supply to the machine. Make sure that the machine is free of residual pressure, in both the air and the material side.

**After the completion** of work you must in any case check the function of all protective devices and the correct function of the machine.

Activity	Qualification of personnel
Setup work	instructed user
Service work	instructed user
Cleaning work	instructed user
Maintenance work	personnel trained by <b>WIWA®</b> - Customer service
Repair work	personnel trained by <b>WIWA®</b> - Customer service

## 2.5 Protective equipment



We would like to point out that the valid guidelines and stipulations depending on the work environment (mining, closed rooms, etc) must be respected in any case.



Always wear the protective clothes specified by the material manufacturer to avoid injuries.



The sound pressure level of this unit is less than 85 db(A). However, operating personnel should still be provided with suitable noise protection equipment.



It is recommended that the operator should always wear a respiratory protection mask, even though the paint mist has been minimized in Airless spray painting applications with correct pressure setting and working mode.



Wear protective goggles to protect against eye injuries caused by mechanical or chemical influences.



Wear protective gloves with lower arm protection to avoid burn injuries.



## 2.6 Safety features

All safety features must be checked:

- before each start-up of the equipment!
- before starting work on or with the equipment!
- after completion of setup work!
- after cleaning and servicing work!
- after maintenance and repair work!

### Check list to check the safety features on the depressurized unit

- ☐ Please check:
- ☐ the lead seal on the safety valve for damage.
- ☐ the safety valve for external damage.
- ☐ the correct function of the master switch.
- ☐ the function of the air pressure valve on the spray gun.



#### Attention!

Not fully functional safety features or other deficiencies on the machine can lead to malfunctions. This may cause serious injuries to persons and damage to property.

- Stop operation of the system immediately!
- Operation of the system must only be resumed after the correct functional state has been re-established.

All units are delivered with the following safety features:

#### Master switch, (Fig. 2.4)

When the master switch on the control cabinet is switched to position “0 / OFF”, both the electric power and compressed air supply are immediately cut off.

Note:

The compressed air supply to the spray is not interrupted!

Material may still be under pressure in the system! Es kann noch Materialdruck im System anstehen!

0 / OFF    I / ON



Fig. 2.4

#### Safety valve, (Fig. 2.5)

The safety valve on the air motor of the metering pump makes sure that the max. permissible air inlet pressure is not exceeded. The safety valve will open and vent off air when the air inlet pressure exceeds the set limiting value.

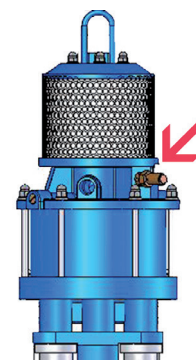


Fig. 2.5

**Air pressure valve on spray gun, (Fig. 2.6)**

The air pressure valve must be locked for each break, even for short interruptions of work. Slide the air valve to position "CLOSED/0".

With missing compressed air the material valves will stay closed.

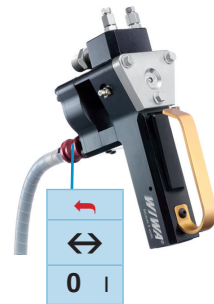


Fig. 2.6

**Overtemperature switch, (not illustrated)**

These elements switch off the equipment when the maximum permissible temperature in the material flow heaters is exceeded. This malfunction is signaled on the control cabinet.

After the material flow heater has cooled down and the malfunction has been acknowledged, the plant can be operated again.

**Material pressure relief sensor, (not illustrated)**

In the factory both pressure relief sensors were set to the maximum admissible operating pressure. When this value is exceeded the equipment, including the heaters, will switch off completely.

This malfunction is signaled on the control cabinet.

Trouble free operation can only be resumed after the pressure on the corresponding components has been relieved.

**ELCB, (not illustrated)**

If the maximum permissible leakage current on the hose packages is exceeded, the ELCB's fuse is triggered. The plant switches off.

Trouble free operation cannot be resumed until the fault has been eliminated.

**Compressed air shut-off valve, (not illustrated)**

The compressed air shut-off valve is for interrupting the compressed air supply.


- On the air maintenance unit for switching off the entire plant (optionally available).
- On the feed pumps for switching off the feed pumps

## 2.7 Handling the system and auxiliary materials

- Follow the safety notes and dosing information of the manufacturers and the generally applicable regulations when handling spraying materials, cleaning agents, oils, greases and other chemical substances.

## 2.8 Emergency procedures

### 2.8.1 Leakages

- In case of leakages the system must be shut down **immediately** and the complete system must be depressurized:
  - ❑ Switch off the unit by the EMERGENCY STOP switch .
  - ❑ Make sure that the system has been depressurized.
  - ❑ Immediately replace the defective parts or have these replaced.

### 2.8.2 Injuries

- Immediately consult a physician if injured when handling fluid jets (because of their cutting effect)!

### 2.8.3 Fires

- Read and comply with the instructions for fire alarm and escape routes, which are displayed in your factory or at any work place.
- Only use the extinguishing substances stipulated by the material manufacturer.

## 3 System Description

### 3.1 Intended use of the machine

The **WIWA®** DUOMIX PU 460 is most suitable for the application of solvent free dual-component plastic materials (polyurea). This system enables the seamless and jointless application of coatings and linings.

Your dual component system was designed to meet your special requirements (material to be applied, mixing ratio, transfer quantity, etc.).

Exact metering of both components is assured by the fixed mixing ratio. The mixing ratio can only be changed by exchanging the material pumps.

Any other use is deemed to not be in accordance with regulations.

The manufacturer's approval must be obtained before **WIWA®** units are used for any other purpose or with other materials, i.e. not in accordance with the intended use, otherwise the warranty will become null and void.

Intended use also includes compliance with the technical documentation and adherence to the prescribed operating, servicing and maintenance guidelines.

### 3.2 Notes on warranty

Unauthorized conversions or alterations should not be undertaken on safety grounds.

Protective equipment should not be dismantled, converted or bypassed.

Use of components which have not been manufactured or delivered by **WIWA®** renders any warranty null and void.

The unit should only be operated within the prescriptive limit values and machine parameters.



**Notice: Dangers caused by accessories and spare parts:**

If you use original **WIWA®** accessories and spare parts, their suitability for use with our equipment is guaranteed. It is, however, mandatory to respect the safety regulations of the accessories and spare parts.

These safety regulations are found in the corresponding user manuals for the accessories.

If foreign accessories or spare parts are used, the company **WIWA®** cannot guarantee the safety of the entire system. Similarly liability is null and void for damages or injuries incurred through use of those accessories and spare parts.

## 3.3 Plant environment

### 3.3.1 Emissions



Depending on which materials are processed, hazardous fumes may be generated. For this purpose, always ensure for sufficient aeration and ventilation at the workplace for avoiding damage to your health and property. You should **always** follow the processing information issued by the material manufacturers.

### 3.3.2 Sound pressure level



The sound pressure level of this unit is less than 85 db(A).

However, operating personnel should still be provided with suitable noise protection equipment. The operator is responsible for adhering to noise and vibration protection regulations. For this purpose, pay special attention to the conditions of the setting up location, e.g. will the noise exposure increase if the system is set up in or on hollow bodies.

## 3.4 Transport

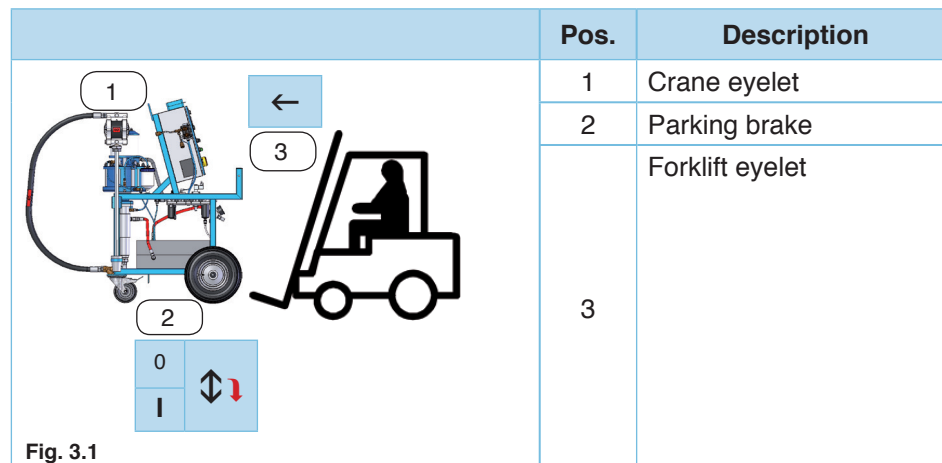


#### Notice:

The systems leave the factory in flawless condition and are appropriately packed for transport.  
Upon arrival you should check the system for any apparent transport damage.

- Disconnect the entire power supply for the machine, even for short transport distances.
- Empty the machine before transport.
- Do not transport any other objects (e.g. material drums) while lifting or loading the machine.
- Remove all loose components (e.g. tools) from the unit.
- Caution when loading with hoisting gear!
  - ❑ Ensure sufficient load bearing capacity of lifting gear and lifting tackle when loading the machine.
  - ❑ The system must only be lifted by the lifting and lashing points provided for this purpose, (Fig. 3.1).
  - ❑ Watch out for freely suspended suspension ropes!
  - ❑ When using a forklift truck make sure that the lifting fork is long enough (at least 100cm). The lifting fork must only be inserted into the rack from the front (towards the control cabinet) and through all fork openings, (Fig. 3.1).
  - ❑ Never stand under suspended loads or inside the loading area. This poses a danger to life!
- You will find the dimensions and weights of the equipment on the machine card.
- Secure the load on the transport vehicle against slipping and falling off.

- Parts or equipment that have been removed for transport purposes must be attached professionally and in accordance with the intended use before commissioning.



### 3.5 Place of installation of the machine

- The **WIWA® DUOMIX PU460** can be installed inside and outside spray booths and rooms. However, outdoor installation should be preferred in order to avoid contamination.
- Protect the equipment against rain and wetness. Do not store outside.
- The machine must only be taken into service under frost free weather conditions, to avoid crystallization of material and thus damage to the equipment.
- The owner must protect the entire system by undertaking appropriate lightning protection measures.



#### Attention!

If the unit is used outdoors, a lightning can cause a dangerous situation for the operator.

- Never operate the unit outdoors when there is a thunderstorm!
- This system requires a solid base and sufficient free space for safe operation. The access to the safety features must be kept clear.
- At the place of use apply the parking brake for the wheels, (Fig. 3.1).
- Always keep the working area, especially all walkways and standing areas, clean and tidy. Clean up spilled paint or cleaning agents immediately.
- Always ensure for sufficient aeration and ventilation at the workplace to avoid damage to health and material objects.  
Always observe the processing instructions issued by the material manufacturers.
- Protect a objects adjacent to the spraying object against possible damage caused by the paint mist.
- Strictly comply with the valid accident prevention instructions.

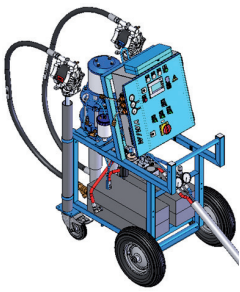
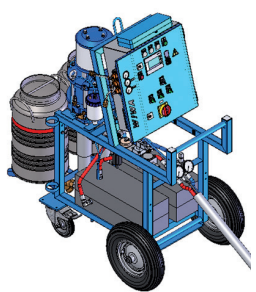
### 3.6 Storing the machine and additional equipment

- Store the machine in a frost-free, vibration free, dry and possibly dust free environment.
- The machine and its implements must under no circumstances be stored outside closed rooms.

### 3.7 Disposal of the machine and additional equipment

- Clean the unit thoroughly of all material residues.
- Disassemble the entire unit and separate the materials.
  - ❑ Take metal parts to scrap metal services.
  - ❑ Plastic parts can be disposed of through the household waste.
- Rests of spraying material, cleaning agent, oils, greases and other chemical substances must be collected in accordance with statutory provisions concerning recycling and waste disposal.  
The official local waste water laws are valid.

### 3.8 System variants

optionally with feed pumps <ul style="list-style-type: none"> <li>➤ diaphragm pumps, (Fig. 3.2)</li> <li>➤ piston pumps, (Fig. 3.3)</li> </ul>	 Fig. 3.2	for 200l drums optionally with: <ul style="list-style-type: none"> <li>➤ hose bracket</li> <li>➤ Circulation</li> <li>➤ Relief</li> </ul>
optionally with feed drum, (Fig. 3.4)	 Fig. 3.4	

## 3.9 System description

### 3.9.1 Without circulation

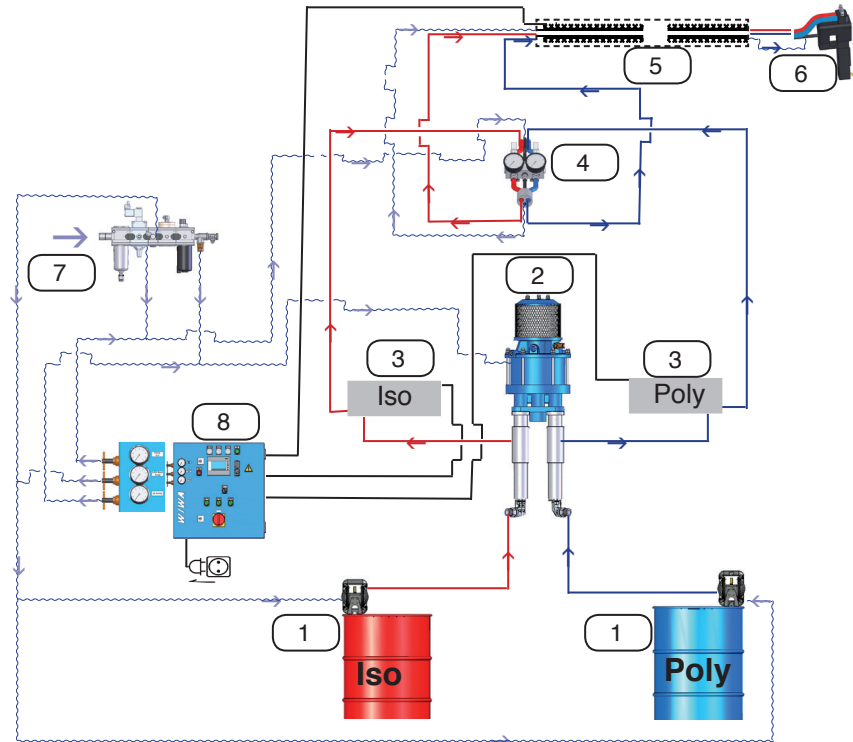


Fig. 3.5

### 3.9.2 With circulation

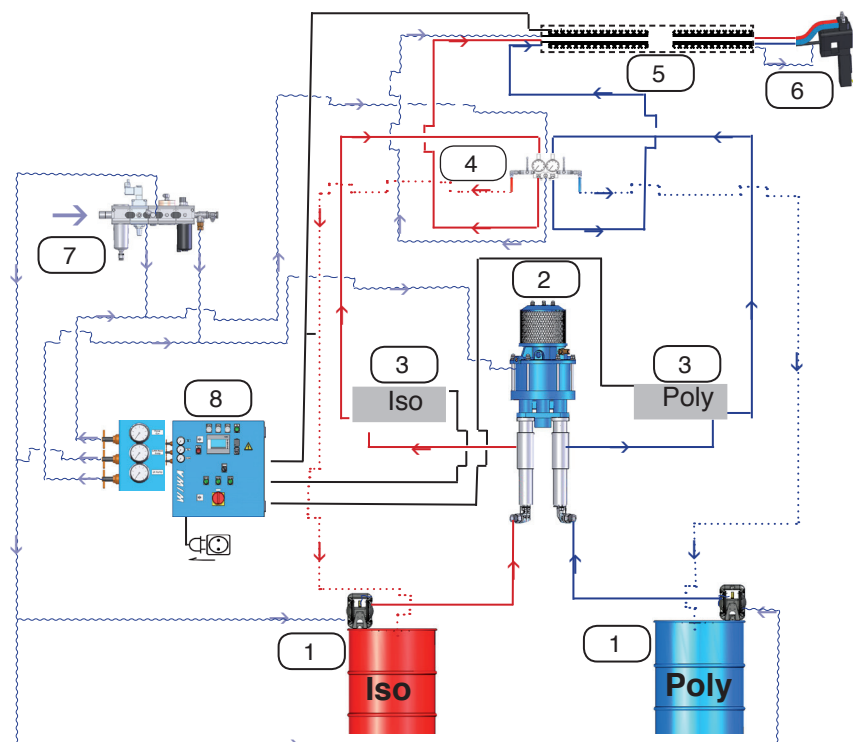


Fig. 3.6



### 3.9.3 Material flow

**Notice!**

Ensure correct component allocation at all times!

red = Iso component (Isocyanate)

blue = Poly components (Polyol)

1

(Fig. 3.5), (Fig. 3.6)

Depending on the model range, the material to be applied is directly filled into the feed drums, or a feed pump is placed into the delivered drum (200 l bung-hole barrels) of each component.

We recommend to equip the drum with the Iso-component (isocyanate) with an additional silicagel filter, to prevent the material from reacting with humidity and thus crystallization of the material.

2

Both components are fed to the metering pump and exactly metered with the respective mixing ratio (see machine card).

3

Each component is individually heated to the required processing temperature in a material flow heater. The temperature is automatically regulated in accordance with the temperature setting. Preset top temperature limits make sure that the material will not be overheated. For short breaks the heating may remain switched on.

4

The material flow is controlled on the distributor:

a) for spraying: to the spray gun

b) to vent the system: back into the delivered drum (only optional).

5

When spraying the material is directed through the heated hose package to the spray gun. The hose package contains a compressed air line to supply the spray gun with compressed air, as well as a material hose for each component with a 3m whip end. Another temperature sensor is integrated in the whip end.

6

Mixing of material only takes place in the pneumatically controlled spray gun, the spray pattern can be pneumatically influenced with the jet regulating screw, as required.

The material flow is controlled by opening and closing the mixing chamber. With the spray gun closed the material residue in the mixing chamber is mechanically forced out. A material plug that may possibly be stuck in the outlet opening can be removed with the help of compressed air.

### 3.9.4 Compressed air control

▼ 7 (Fig. 3.5), (Fig. 3.6)

The compressed air supply provided by the customer is connected to the maintenance unit of the equipment. From there the compressed air is directed to the metering pump, the feed pumps and the spray gun. The required working pressure for the feed pumps, spray gun and metering pump can be regulated by the pneumatic regulators on the control cabinet. The maximum operating pressures must thereby be complied with (see chap. "14.1 Technical data", P. 14-1).

### 3.9.5 Temperature control

▼ 8 (Fig. 3.5), (Fig. 3.6)

The temperatures for both material flow heaters and for the hose package are adjusted by entering the temperature on the control cabinet of the system. The automatic temperature control prevents overheating of the material. Depending on local conditions concerning electric power supply the power level for the material flow heaters can be reduced.

### 3.10 System components

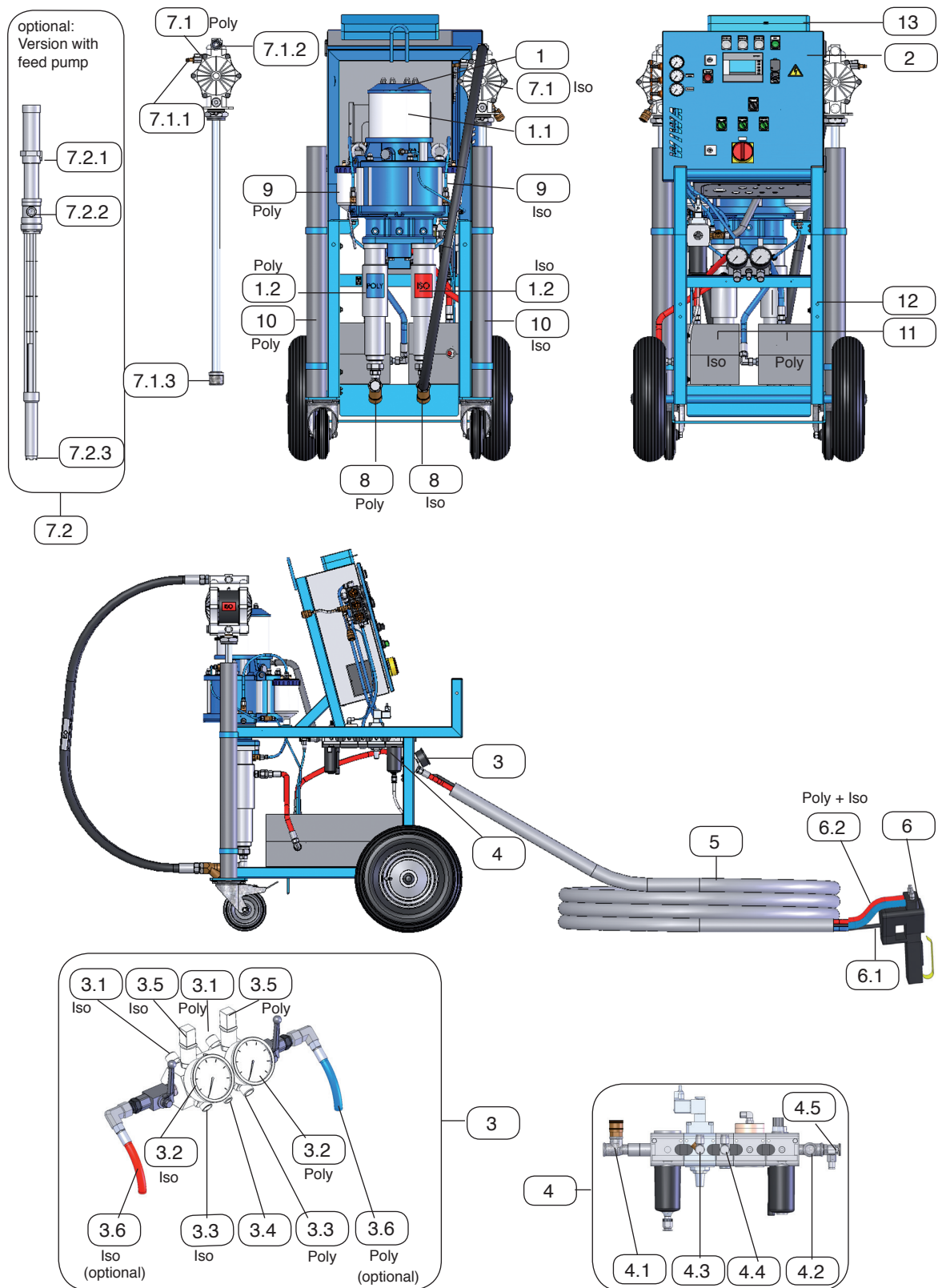


Fig. 3.7

Pos.	Description
1	Metering pump
1.1	Air motor
1.2	Material pump
2	Control cabinet (see chap. "3.11 Control cabinet", P. 3-10)
3	Distributor
3.1	Material hose connection
3.2	Material pressure gauge
3.3	Connection material hose - hose package
3.4	Connection compressed air hose spray gun
3.5	Pressure sensor
3.6	Return flow/relief hose with material shut-off valve (optional for circulation / relief)
4	Maintenance unit
4.1	Compressed air connection
4.2	Connection of compressed air line to metering pump controller
4.3	Connection of compressed air line to metering pump controller
4.4	Connection of compressed air line to feed pump controller
4.5	Deicing of control valve
5	Heated hose package
6	Reverse flow spray gun (see chap. "12.4 Spray gun", P. 12-8)
6.1	Connection compressed air hose
6.2	Connection of heated hose package
7	7.1 Feed pump, design: Diaphragm pump
7.1.1	Compressed air shut-off valve / connection compressed air line
7.1.2	Material discharge
7.1.3	Material intake with check valve and material screen
7.2	Feed pump, design: Piston pump
7.2.1	Connection compressed air line
7.2.2	Material discharge
7.2.3	Material intake
8	Dirt trap
9	Release agent container
10	Receptacle
11	Material Flow Heater
12	Rack
13	Tool box

## 3.11 Control cabinet

### 3.11.1 Components on the control cabinet

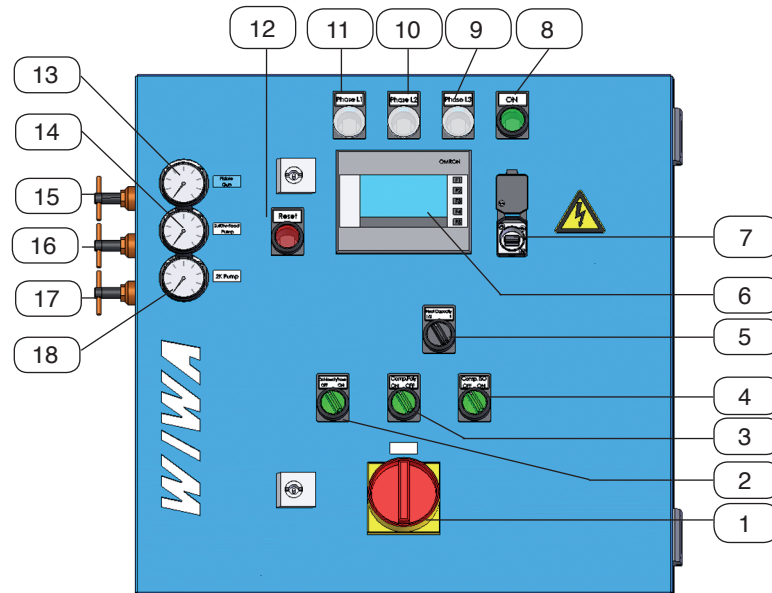


Fig. 3.8

Pos.	Description
1	Master switch
2	Heating hose package "ON / OFF"
3	Material flow heater "ON / OFF", component Poly
4	Material flow heater "ON / OFF", component Iso
5	Selector switch heating power reduction "1/2 / 1"
6	Touch screen monitor
7	USB-port (optional)
8	Button "SYSTEM ON"
9*	Control lamp phase monitoring phase 3
10*	Control lamp phase monitoring phase 2
11*	Control lamp phase monitoring phase 1
12	Button reset malfunction
13	Compressed air pressure gauge spray gun
14	Compressed air pressure gauge feed pumps
15	Compressed air regulator spray gun
16	Compressed air regulator feed pumps
17	Compressed air regulator metering pump
18	Compressed air pressure gauge metering pump

\*) not available for 1-phase design

### 3.11.2 System control

The touch screen display is used to enter or read the following values:

- ACTUAL and NOMINAL temperature individually for both material flow heaters and for the hose package.
- ACTUAL value for the applied material quantity
- Activation of parking position
- Display of malfunctions
- Language selection

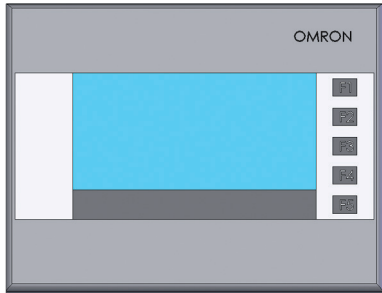
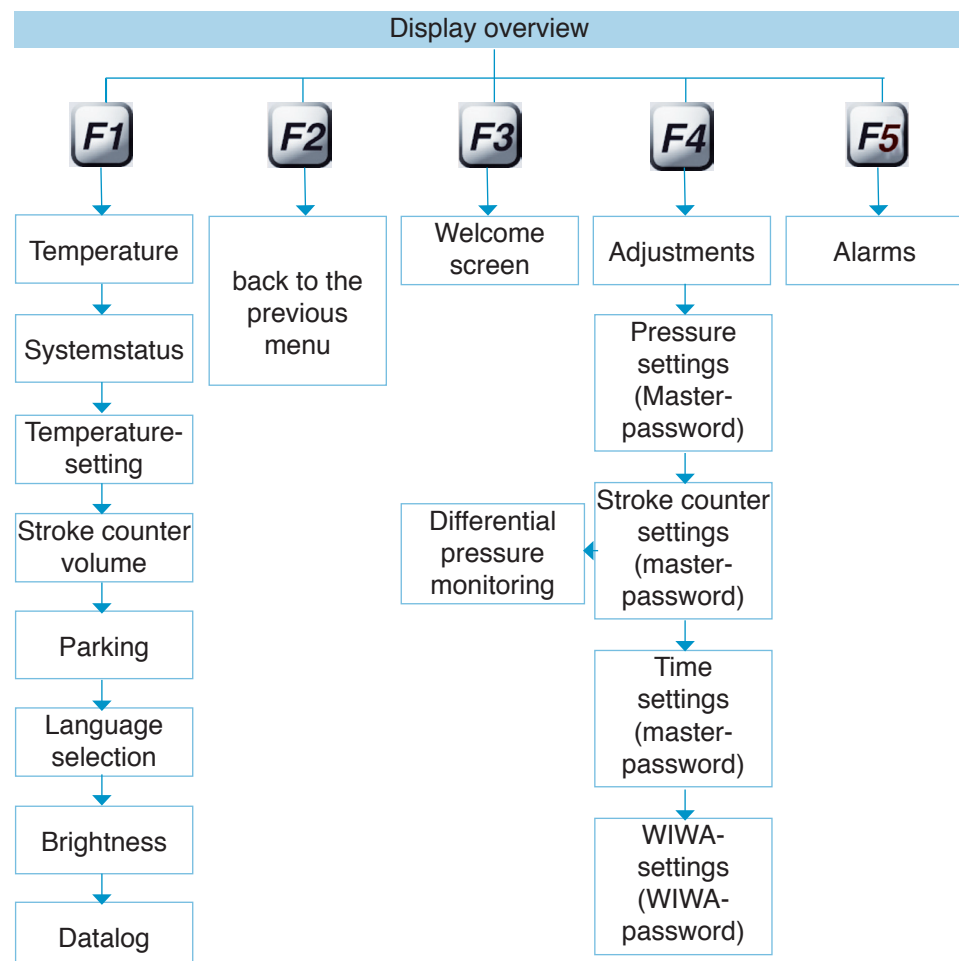
	Button	Description
	F1	Opens the required menu
	F2	back to the previous menu
	F3	back to the welcome screen
	F4	Settings (password protected)
	F5	Alarm display

Fig. 3.9



## 4 Menu

### 4.1 Welcome screen



After switching on the system, the display shows the welcome screen.

During operation you can return to the welcome screen at any time by pressing the **F3** - button.

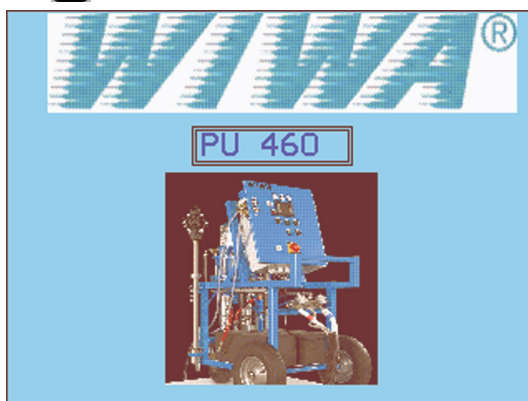






Fig. 4.1

In each other mask the following symbols may appear in the top right hand corner:

Symbol	Meaning
	<p>Attention! A malfunction is reported.</p> <p>To display the malfunction press button <b>F5</b> on the display. Observe and follow the notes in chap. "13 Malfunctions and Troubleshooting", P. 13-1.</p>
	<p>The system runs in manual mode: Pressure monitoring is deactivated.</p>
	<p>The system runs in automatic mode: Pressure differential monitoring is deactivated Input changes in menu "PRESSURE SETTINGS" possible (password protected). Pressing button <b>F4</b> brings you to the menu.</p>
	<p>The system is in parking position.</p>

### 4.2 Pre-settings

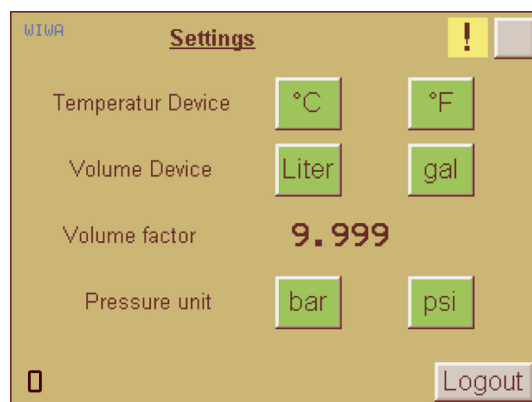


In this menu you can make influential settings for the work process.

We recommend to determine the following parameters before starting work:

- Units for display values, (Fig. 4.2)
- Master settings (**Master** password protected)

## 4.2.1 Units for display values



Press the corresponding button to choose the unit in which the values should be displayed.

Press **F4** again to return to the previous menu.

### Conversion factor l/gal

1l  $\approx$  0.219 UK gal

1l  $\approx$  0.264 US gal

Fig. 4.2

## 4.2.2 Master settings

The menus with Master access rights are used to adapt pressure and stroke counter settings:




### Notice:

**Master** and **WIWA** are password protected.

The password is made available in a separate document.

Changing settings is strictly reserved for trained service personnel and the **WIWA®** Customer Service.

You can access the menu by

1. press **F4** (( 1 )),
2. Enter your Master password and press ENT (( 2 )) to confirm,  
 the **Master** - display appears (( 2 )).

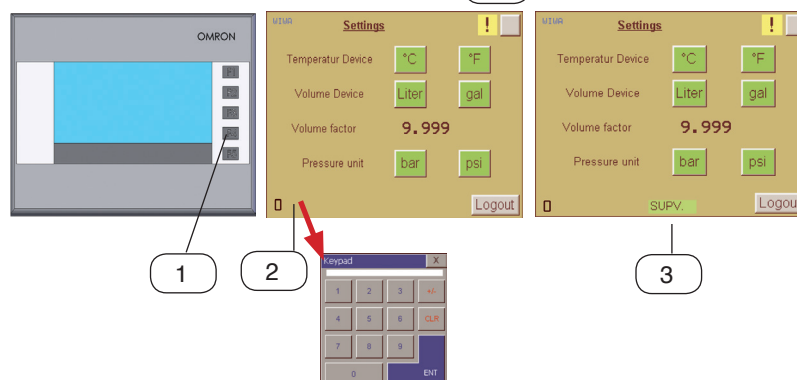


Fig. 4.3



### Notice!

After logging in you can use **F4** to navigate between the menus for settings, pressure and stroke counter settings.



### 4.2.3 Pressure settings

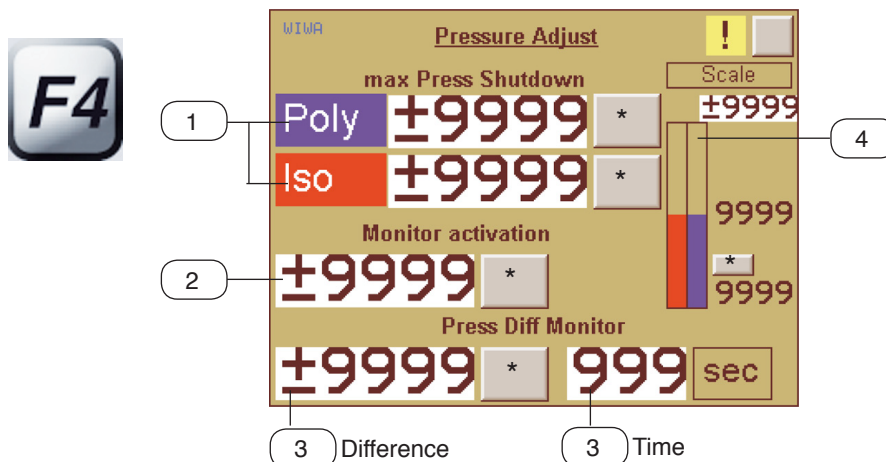


Fig. 4.4

Pos.	Description
1	Upper limit for the maximum permissible material pressure for each component. When exceeding a value the system will change to malfunction and switch off.
2	Value to start automatic pressure monitoring (Minimum pressure) for both components ( <b>A</b> ).
3	Determination for maximum difference between the components and the maximum duration of this difference. When the difference is exceeded a clock is activated. When the entered value for the maximum duration of the difference is exceeded, the system will change to malfunction and switch off.
4	Graphic representation of pressures. The scaling can be set.

\* => selected unit

## 4.2.4 Stroke counter setting

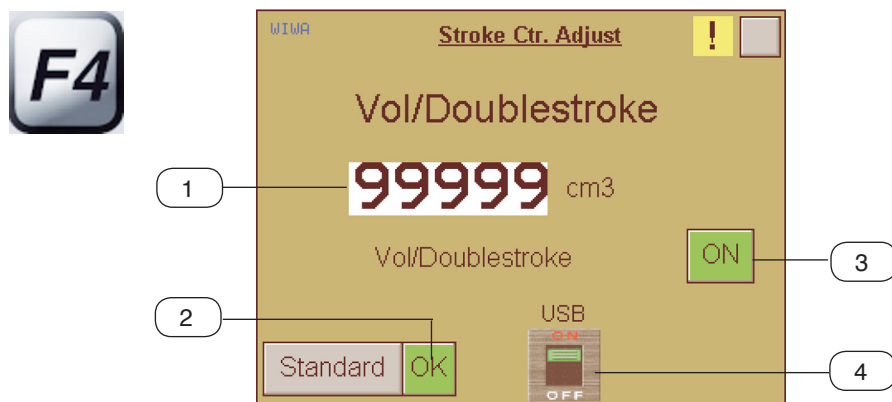


Fig. 4.5

Pos.	Description				
1	<p>Take this value from the type plate of the metering pump or the information in chap. "14.1 Technical data", P. 14-1.</p> <p>This information is decisive for the daily or total quantity counters regarding the delivered volume per liter.</p>				
2	<p>By pressing <b>Standard</b> all settings entered by you are deleted and reset to the factory default settings, see chap. "14.2 Type plates", P. 14-2.</p> <p>The <b>OK</b>-button thereby lights up for a moment.</p>				
3	<p>Monitoring the values for the permissible differential pressure, (Fig. 4.4) can be activated and deactivated.</p> <table border="1"> <tr> <td>active <b>ON</b></td><td> <ul style="list-style-type: none"> <li>Monitoring activated: by two switching points and the pre-set minimum pressure level being reached for both components, see (Fig. 4.4) pos. 2</li> <li>Display at top right: <b>A</b></li> <li>Application: System in automatic mode</li> <li>will be switched off if a malfunction occurs</li> </ul> </td></tr> <tr> <td>inactive <b>Off</b></td><td> <ul style="list-style-type: none"> <li>monitoring must be deactivated after 2 switching points and within a period of 30 seconds (setting value, see (Fig. 4.4))</li> <li>Display at top right: <b>H</b></li> <li>Application: during a short interruption of work with the material flow heaters switched on                             <ul style="list-style-type: none"> <li>The system does not change to malfunction when the differential pressure is exceeded.</li> <li>When resuming work, differential pressure monitoring is automatically reactivated after 2 switching points.</li> </ul> </li> </ul> </td></tr> </table>	active <b>ON</b>	<ul style="list-style-type: none"> <li>Monitoring activated: by two switching points and the pre-set minimum pressure level being reached for both components, see (Fig. 4.4) pos. 2</li> <li>Display at top right: <b>A</b></li> <li>Application: System in automatic mode</li> <li>will be switched off if a malfunction occurs</li> </ul>	inactive <b>Off</b>	<ul style="list-style-type: none"> <li>monitoring must be deactivated after 2 switching points and within a period of 30 seconds (setting value, see (Fig. 4.4))</li> <li>Display at top right: <b>H</b></li> <li>Application: during a short interruption of work with the material flow heaters switched on                             <ul style="list-style-type: none"> <li>The system does not change to malfunction when the differential pressure is exceeded.</li> <li>When resuming work, differential pressure monitoring is automatically reactivated after 2 switching points.</li> </ul> </li> </ul>
active <b>ON</b>	<ul style="list-style-type: none"> <li>Monitoring activated: by two switching points and the pre-set minimum pressure level being reached for both components, see (Fig. 4.4) pos. 2</li> <li>Display at top right: <b>A</b></li> <li>Application: System in automatic mode</li> <li>will be switched off if a malfunction occurs</li> </ul>				
inactive <b>Off</b>	<ul style="list-style-type: none"> <li>monitoring must be deactivated after 2 switching points and within a period of 30 seconds (setting value, see (Fig. 4.4))</li> <li>Display at top right: <b>H</b></li> <li>Application: during a short interruption of work with the material flow heaters switched on                             <ul style="list-style-type: none"> <li>The system does not change to malfunction when the differential pressure is exceeded.</li> <li>When resuming work, differential pressure monitoring is automatically reactivated after 2 switching points.</li> </ul> </li> </ul>				
4	<p>Use of the <b>USB</b> - button is strictly reserved for the WIWA Customer Service.</p>				

## 4.2.5 Time settings

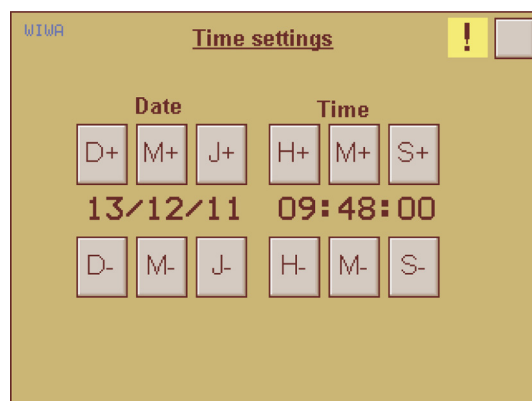


Fig. 4.6

Possibility	Description
	Day
	Month
	Year
	Hour
	Minute
	Second

+ => ascending / - => descending

## 4.2.6 Ending the Master setting

Possible ways to exit this menu:

Possibility	Description
1	<ul style="list-style-type: none"> <li>Press  until you have entered the mask "SETTINGS".</li> <li>Activate .</li> <li>The menu used last before making the settings opens.</li> </ul>
2	<ul style="list-style-type: none"> <li>Press another function key (, , , </li> </ul>
3	<ul style="list-style-type: none"> <li>Automatic logout after time has elapsed.</li> </ul>

### 4.3 Actual temperature (large display)



The current temperatures for both material flow heaters are displayed.

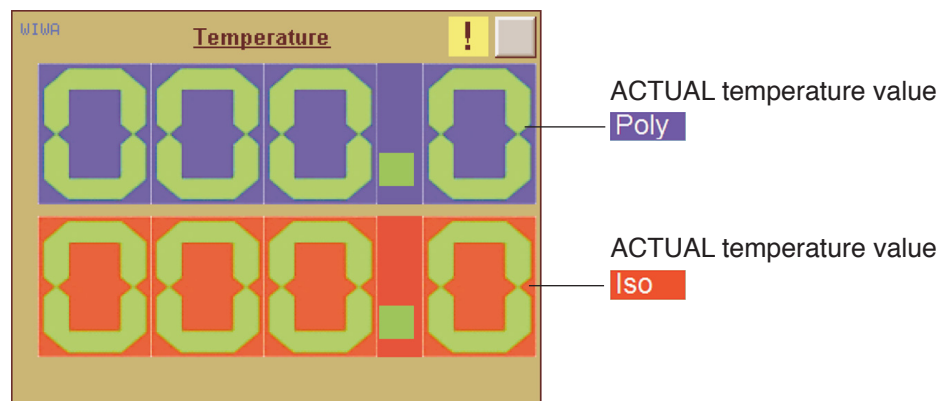


Fig. 4.7

### 4.4 System status



The current temperatures for both material flow heaters and for the hose package are displayed. The ACTUAL values can be directly compared with the NOMINAL values.

Once the system has switched to automatic mode, the actual pressures for both components are displayed and differential pressure monitoring between the two components is activated.



#### Notice!

If the indicated ACTUAL temperature continually changes between 0.0 °C and 999.9 °C, the temperature lies within the freezing zone. A correct temperature indication only takes place above 0 °C.

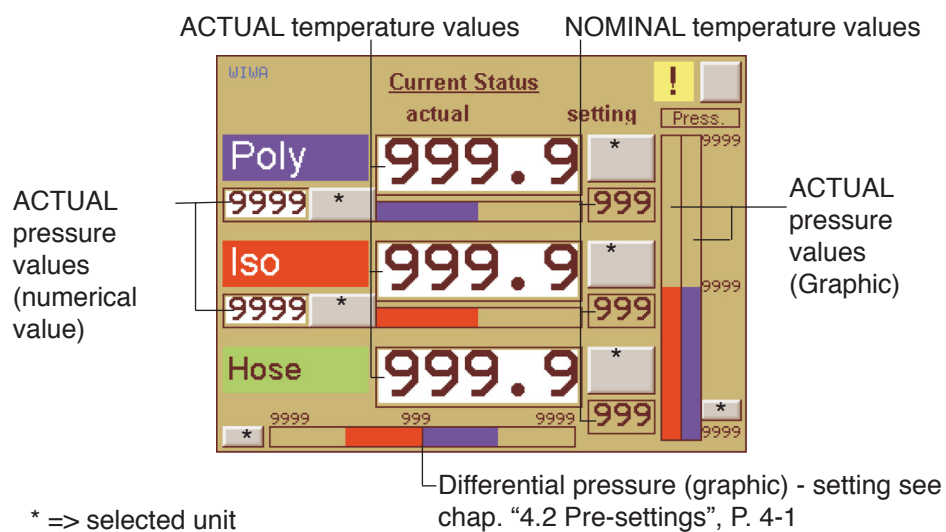


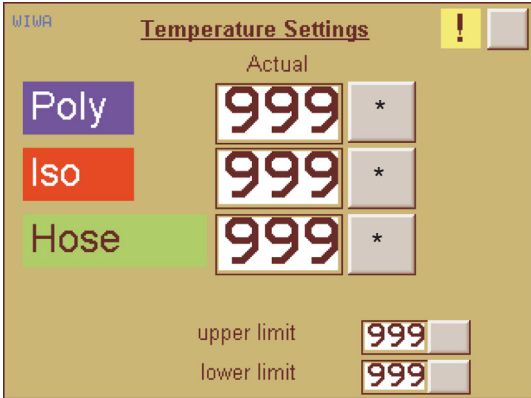
Fig. 4.8

## 4.5 NOMINAL temperature



Here the NOMINAL temperatures are specified for each component and for the hose package.

Pressing the corresponding numerical field opens a keyboard to enter the value. Press ENT to confirm the input.



\* => selected unit



factory setting	°C	°F
Upper limit	100	212
Lower limit	20	68

Fig. 4.9

## 4.6 Stroke counter




The total and daily volume of applied material is displayed in dependence on the pulses.

The daily counters can be reset to zero by pressing the  - button. Resetting is confirmed in field .



### Notice!

- The day counter is only active when the pre-set minimum pressure level of both components is exceeded, see chap. "4.2.3 Pressure settings", P. 4-3.
- The total quantity counter cannot be reset.



\* => selected unit

Fig. 4.10

## 4.7 Activate/deactivate parking



### Notice!

You should always move the equipment to parking position when interrupting work or at the end of work to prevent the system from being damaged by curing of material.

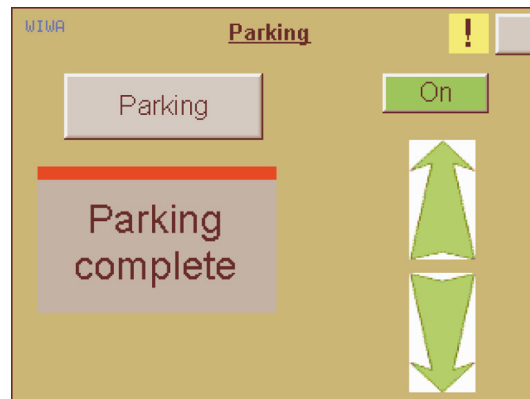


Fig. 4.11

Symbol	Description
	Activating / deactivating the standby mode for the unit.
	Display: Parking mode active.
	Display: Parking mode deactivated. The display <b>P</b> no longer shows this symbol. Further possibilities for deactivation: <ul style="list-style-type: none"> <li>➤ Reset the malfunction with the "RESET" </li> <li>➤ Restart the system with </li> </ul>
	The arrows indicate the current direction of rotation of the metering pump. In parking position the metering pump remains in bottom position.
	While approaching the parking position, you are asked to check the material pressure of both components.
	The parking position has been reached. The display shows the symbol <b>P</b> in the right hand top corner.

## 4.8 Language selection

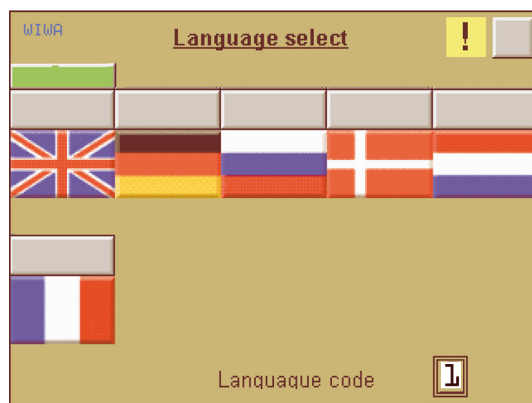




Fig. 4.12

You can choose the language to guide you through the display. For this purpose click above the flag into the text field. The selected language is identified with a green bar - further languages optionally available.

## 4.9 Brightness



Fig. 4.13

You can match the brightness of the display to the local conditions by pressing the buttons  + .

## 4.10 Datalog




Fig. 4.14

The following information is saved to a USB-stick:

- Date
- Time
- Daily volume
- Temperature Poly / Iso / Hose
- Pressure Poly / Iso
- Faults
- Total volume

## 4.11 Alarm



Here you will be informed about possible malfunctions:  
Once the malfunction has been eliminated, it must be acknowledged with the button .

The previously activated menu will appear again.

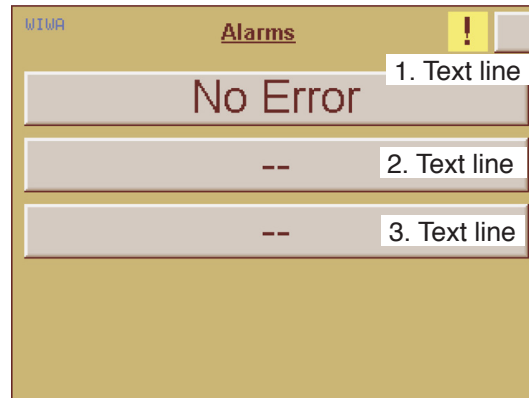


Fig. 4.15

1. Text line:  
Display of faults in case of overpressure, excessive temperatures, defective hose heating or tripping of a fuse.
2. Text line:  
to display the pressure differential.
3. Text line:  
Display of malfunctions, which may occur in the material flow heaters or in the hose package, e.g. faults on the temperature sensor.



## 5 Installation and Assembly

### Prerequisites

- The material to be applied is readily available.
- Prepare the material by following the instructions of the material manufacturer.  
All materials to be sprayed must be supplied from the manufacturer with data concerning viscosity, application temperatures, mixing ratios, etc. If this is not the case, consult the corresponding manufacturer and ask for these data.  
For optimal preparation of the spraying materials we offer **WIWA®** a wide range of accessories, like e.g.:
  - agitators in various sizes
  - material preheating containers
- The compressor power must match the air requirements of the equipment, so that an adequate air supply is ensured see chap. “14.1 Technical data”, P. 14-1.
- The diameters of the air supply hoses must match the connections on the equipment.

### 5.1 Setting up the unit

Stand the unit on a level, firm and vibration-free base.



#### Notice!

Consider the required floor space - see chap. “14.1 Technical data”, P. 14-1.  
All operating elements must be easily accessible.  
The access to the safety features must be kept clear.

### 5.2 Assembling attachments and accessories

Various system components were removed and packed in a separate cardboard box for transport.

- heated hose package
- spray gun (optional)



#### Attention!

Material emerging from the connections can cause severe physical injuries and damage to property.

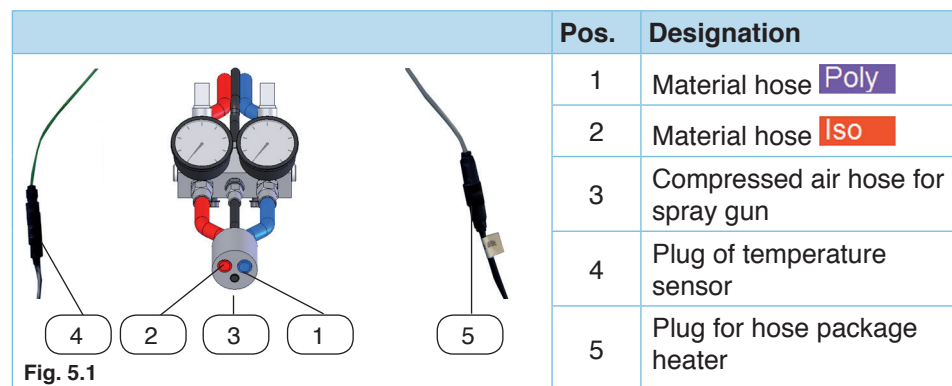
All connections must comply with the specified machine parameters.

Check all rotatable parts, nuts, screws and hose connections and tighten these properly.

1. Check the permissible highest pressure for material hose, spray gun and accessories. It must be higher than or equal the maximum operating pressure of the equipment as specified on the type plate or the machine card.
2. Compare the maximum operating pressure of the safety valve with the specifications in the machine card or the type plate.  
These data must match.

### 5.2.1 Connecting the hose package to the adapter

Connect all hoses and cables to the adapter as follows, (Fig. 5.1) - viewed from the front towards the control cabinet



### 5.2.2 Connecting individual hose package segments

Connect the individual hose package segments, (Fig. 5.2).  
The hose package can be made up of several hose package segments of 15m each.

The individual hose package segments are colour marked:

L1 = green	L2 = yellow	L3 = magenta
------------	-------------	--------------

Type	Permitted number of hose packages		
	L1	L2	L3
400 V	3	3	3
230 V / 3 phase	2	2	2
230 V / 1 phase	3	-	-



#### Notice!

Only connect at most the permitted number of hose packages of the same type, so that an optimum power distribution is guaranteed across all phases.  
Example for 400 V: max. 3xL1 + 3xL2 + 3xL3

#### 1. Connect material hoses

In each hose package segment the assignment of the material hoses can be identified by a colour marking:

red = Isocomponent (Isocyanat)	blue = Polycomponent (Polyol)
--------------------------------	-------------------------------

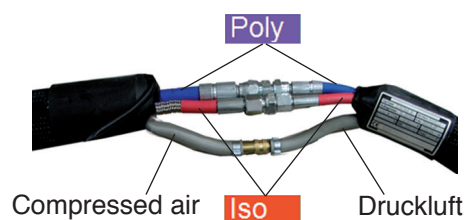


Fig. 5.2

## 2. Connect the electric supply cable



### Notice!

The operating voltage of the hose package is defined by the plug of the temperature sensor.

Plug temperature sensor, pos. 4 (Fig. 5.1)	2-pin		➤ 400 V
	7-pin		➤ Low voltage ➤ 230 V ➤ 2 pins assigned - arrangement in dependence on operating voltage
Plug heater hose package, pos. 5 (Fig. 5.1)	4-pin		➤ 230V ➤ 400 V



Fig. 5.3

➤ Connect the plug



Fig. 5.4

➤ Place the plug  
 ➤ Thereby ensure opposite arrangement of plug to the associated cable. This prevents the plug/cable from being damaged in case of a possible tensile load acting on the hose package.



Fig. 5.5

➤ Fix the connection with adhesive tape.



Fig. 5.6

### 5.2.3 Connection spray gun to the hose package

Connect the spray gun to the hose package.



**Notice!**

Take notice and follow the notes in chap. "12.4.4 Connect the spray gun to the hose package", P. 12-10, or in the associated operating instructions for the spray gun used.

### 5.2.4 Connection feed pumps

1. Open the bungholes on the material drums.
2. Insert the feed pumps into the material drums. Ensure horizontal mounting position and secure hold of pumps. We recommend assembly on a drum lid.



**Notice!**

Ensure correct component allocation at all times!

red = Iso component (Isocyanate)

blue = Poly components (Polyol)

3. Connect the material and compressed air sides of the feed pumps to the external material containers or fill the material to be applied into the feed funnels.



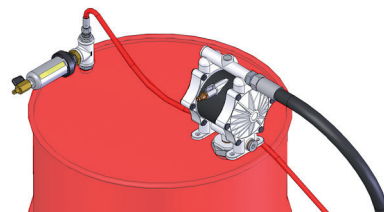
**Notice!**

The Iso material has a tendency to crystallizing when coming into contact with humidity.

We therefore recommend to have the material container for this component additionally fitted with an optional **WIWA®** - silicagel filter, (see chapter chap. "12.2 Silicagel filter", P. 12-3).

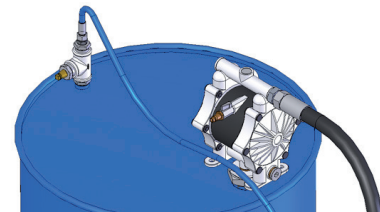
Please observe the notes of the material manufacturer.

4. Guide the return flow hoses (optional) into the corresponding material drums and secure them against accidental slipping out.



Screw fitting return flow on silicagel filter on drum lid of Iso components (optional)

Fig. 5.7



Screw fitting return flow on drum lid of Poly component (optional)

## 5.3 Check the condition of the release agent

Check the release agent level - see chap. "11.4 Release agents", P. 11-4.

## 5.4 Ground the system



### Caution!

The high flow velocities associated with the Airless spraying method may cause static charging.

Static charges can cause fire and explosion.

Both the dual component system and the object to be coated must be properly earthed.

System component	Description of earthing
Dual component system	The unit is earthed via the mains cable.
Spray gun	Grounding is accomplished in connection with the <b>WIWA</b> - material hoses. <b>WIWA</b> - Material hoses are conductive.
Material supply containers (external)	Earthing acc. to local regulations.
object to be sprayed	
Cleaning agent container (external)	

## 5.5 Electric connection



### Caution!

Unprofessional work on live power lines can cause severe injuries caused by electric shock.

Any work on live power lines must solely be performed by professional electricians and with the power shut off.

Locally valid regulations must be followed at all times.



### Caution!

When using in atmospheres containing solvents there is the danger that the power cable could become flawed or porous, which could result in dangerous injuries caused by electric shock.

- You should therefore check the power cable for externally visible damage before each start-up.
- Never repair a power cable. Damaged power cables must always be completely replaced.

1. Before connecting the unit to the mains supply, check whether the prescribed electrical data complies with that available at the installation site.
2. Connect the unit to the local mains supply.

## 5.6 Compressed air connection

Connect the unit to the local compressed air supply.

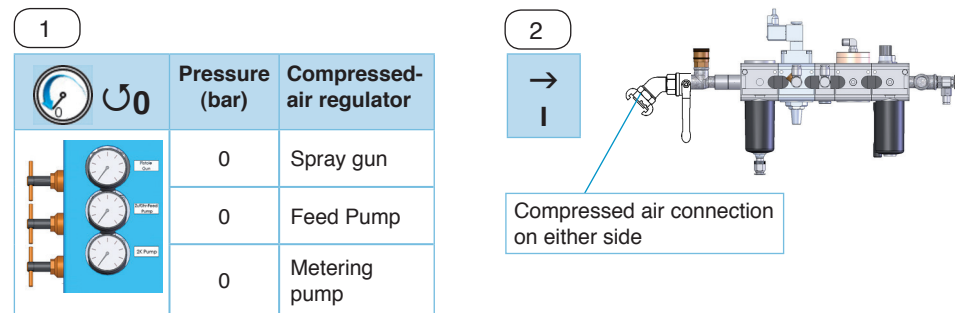


Fig. 5.8



### Notice!

The air inlet pressure in this system is monitored.

If the minimum pressure value is fallen short of over a period of 1 s, the system will automatically shut down.

### Result

The machine has been set up for initial start-up.

## 6 Commissioning

After assembly in the factory the correct functioning of this machine was checked with a testing medium.

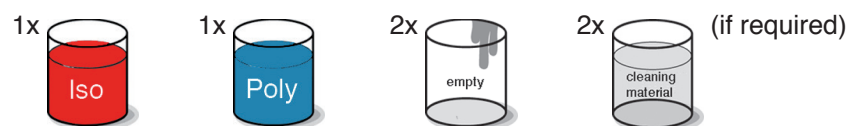
All material hoses and the metering pump must first be filled with the material to be applied.

The entire system can first be flushed with the cleaning agent recommended by the material manufacturer and belonging to the material, before it is filled with the material to be applied, to make sure that the spraying material is not contaminated by the testing medium.

### Prerequisites

The unit has been set up and connected as specified in chap. "5 Installation and Assembly", P. 5-1.

### The following is required



Always wear the specified protective clothes.

### Procedure



#### Risk of explosion!

Heating up cleaning agents can cause an explosion. This can cause severe injuries to body and eyes.

Do not switch on any heater when using cleaning agents!

#### 1. Prepare the material

- ☐ Open the bungholes on the material drums.
- ☐ Insert the feed pumps into the material drums.  
Ensure secure hold of pumps.
- ☐ Open the shut-off valves for compressed air and material (optional) on each feed pump.

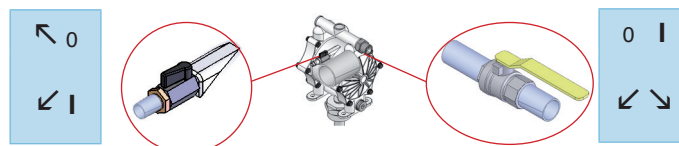


Fig. 6.1

#### 2. Disassemble the connection connection block from the spray gun, see chap. "12.4.8 Disassembling the spray gun", P. 12-12

3. With optional version with circulation / relief:

- ☐ Hold the return flow hoses into open containers to catch testing agent / material mix.
- ☐ Secure the hoses against accidental slipping out.

4. Switch on the equipment



**Notice:**

The air inside the system needs to be pressed out slowly.  
You should therefore not yet apply any pressure to the metering pump.

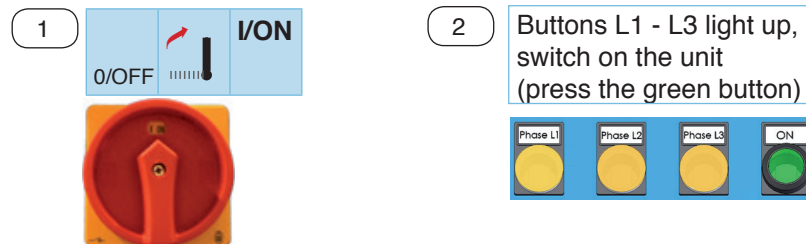


Fig. 6.2

5. Fill the metering pump with material



**Notice:**

The specified pressures are only guide values and, depending on the viscosity of the material or the hose length used, may need to be adapted.

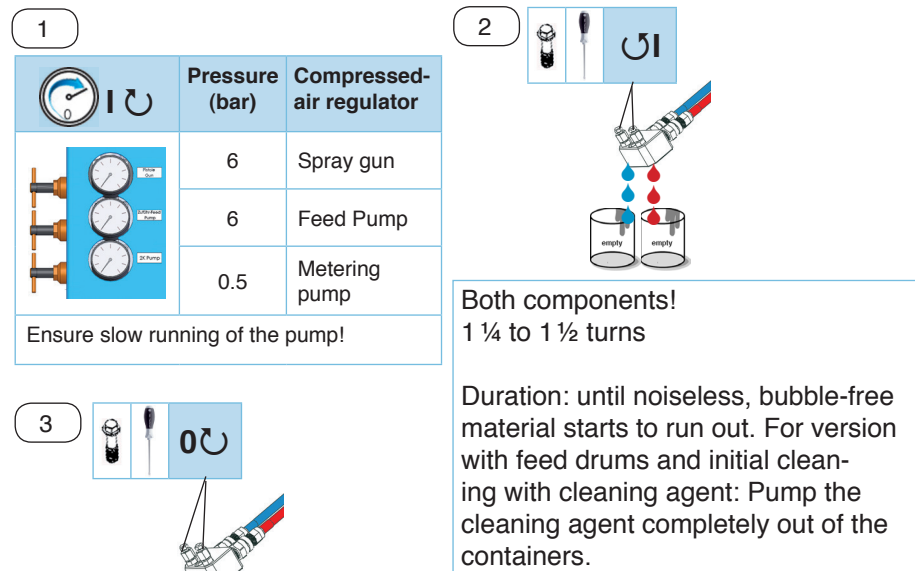


Fig. 6.3



**6.** only for optional version with circulation / relief

- ☐ Open the circulation as described in chap. "12.1 Circulation", P. 12-1.
- ☐ Catch the testing medium/material mix in the collecting container.
- ☐ Close the circulation as described in chap. "12.1 Circulation", P. 12-1 as soon as clean material starts to run out.
- ☐ Fasten the return flow hoses to the material drum.

**7.** Pressure tests

Check the entire system for leakages.

**Notice:**

In case of leakages abort the start-up process and have the malfunction corrected by expert personnel.

**8.** Open the deicing

On the maintenance unit open the regulator for deicing the air motor, (Fig. 6.4).

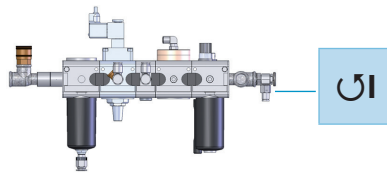


Fig. 6.4

**Notice:**

The deicing may stay open over the entire life cycle of the equipment.

**Result**

The system is ready for operation.

You may continue with the normal operation of the system as per chap. "7 Operation", P. 7-1, or switch off the system as described in chap. "8 Decommissioning", P. 8-1.

## 7 Operation

### Prerequisite

The unit has been prepared as specified in chap. "6 Commissioning", P. 6-1.



#### Notice:

Always observe and follow the warnings and data sheets of the material manufacturer.

Checklist:

Short description	Test state	Comment
Connection including earthing	OK <input checked="" type="checkbox"/>	
Material is available	OK <input checked="" type="checkbox"/>	Iso + Poly
Compressed air connection	OK <input checked="" type="checkbox"/>	closed
Compressed air supply	OK <input checked="" type="checkbox"/>	0 bar
Electrical connection	OK <input checked="" type="checkbox"/>	
System vented	OK <input checked="" type="checkbox"/>	Circulation / relief closed (optional)
Spray gun	OK <input checked="" type="checkbox"/>	secured
Pressure tests	OK <input checked="" type="checkbox"/>	
Separators	OK <input checked="" type="checkbox"/>	

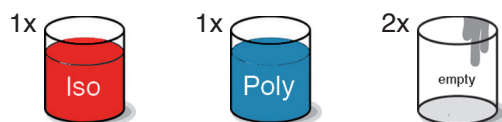


#### Attention!

If the system does not switch off automatically in case of a malfunction, pressure in the system may rise up to a dangerous level, which could cause bursting of components and thus lead to severe bodily injuries and material damage.

Make sure that the equipment is never left unattended during operation! In events of emergency you must be able to react instantaneously!

### The following is required



Always wear the specified protective clothes.

## Procedure

### 1. Switch on the equipment

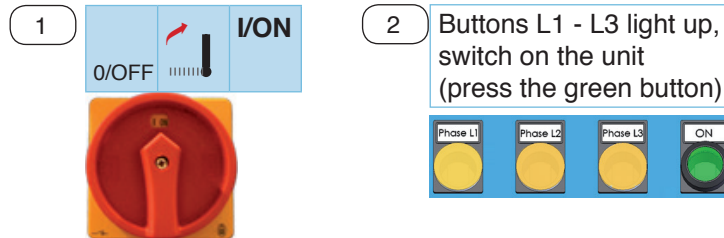


Fig. 7.1

### 2. Secure the material feed or fill the material feed funnels with the material to be applied.

Open the compressed air and material stop cocks on each feed pump.

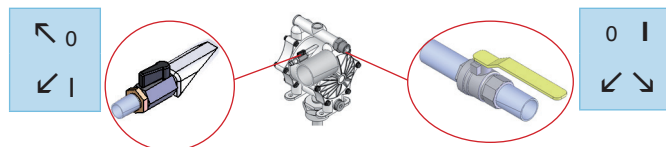



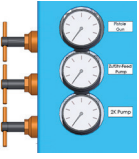
Fig. 7.2

### 3. Adjust the compressed air supply



#### Notice:

The specified pressures are only guide values and, depending on the viscosity of the material or the hose length used, may need to be adapted.

	Pressure (bar)	Compressed-air regulator	
	6	Spray gun	
	6	Feed Pump	
	0.5	Metering pump	Ensure slow running of the pump!

### 4. Switch on the heating system

- ☐ Roll out the hose package completely.
- ☐ Adjust the desired temperature in the display.  
In this respect follow the notes in chap. "3.11 Control cabinet", P. 3-10.

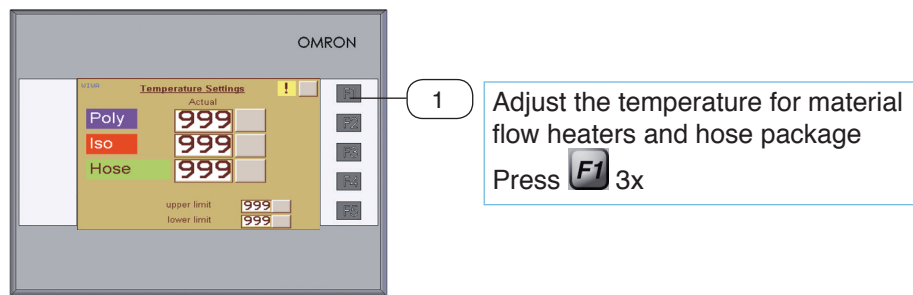


Fig. 7.3

- ❑ Switch on the heating.  
Wait until the material has been heated up to spraying temperature.



**Notice:**

The nominal temperatures of the material flow heaters are reached much faster than the temperatures of the hose package. Therefore switch on the hose package first and the heater for the material flow heating with a slight delay.

To be able to achieve an optimal spraying result, the entire system, including the hose package, must have been heated up to the pre-set temperature, before spraying is started.



**Danger of burning!**

Depending on the set temperature, the outer surface of the adapter can considerably heat up considerably and cause burn injuries on your hands.

You should therefore always wear appropriate protective gloves when having to work on the adapter!

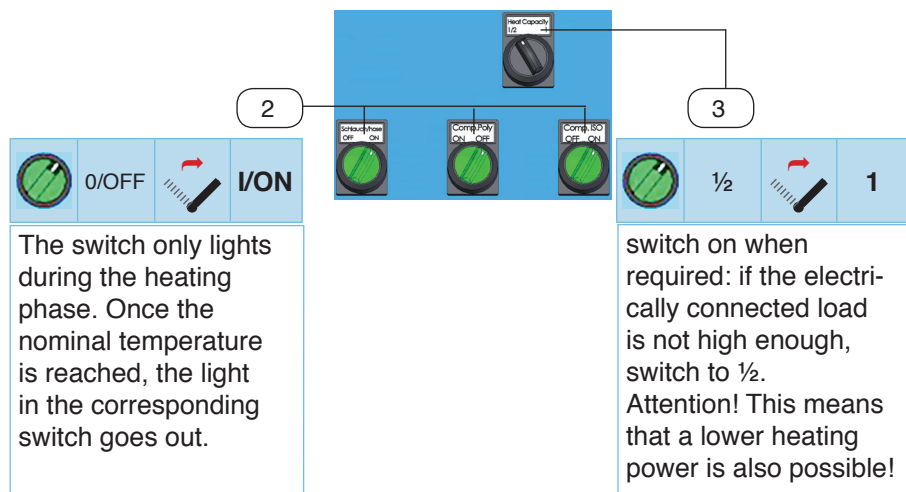


Fig. 7.4



**Notice:**

If the pressure of the metering pump is set too high during the heating phase, the pressure of one of the components may increase to overpressure and thus switch off the equipment. You should therefore ensure a low pressure setting!

**5. Pressure equalization of both components**

Due to the differences in material characteristics of **Iso** and **Poly** components, the pressure in the system may have increased differently during the heating phase.

For optimal working results we recommend a maximum pressure difference of 10-20 bar between both components.

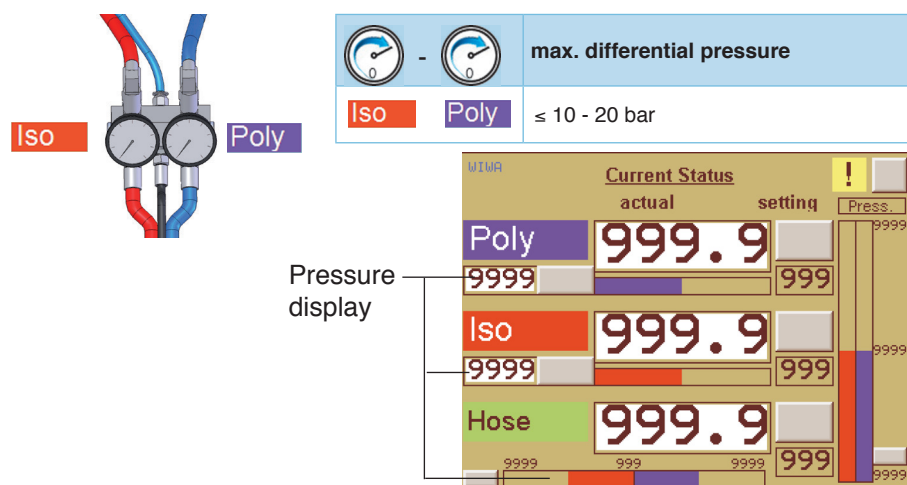


Fig. 7.5

- To relieve the pressure open the valve of the component with the higher pressure.

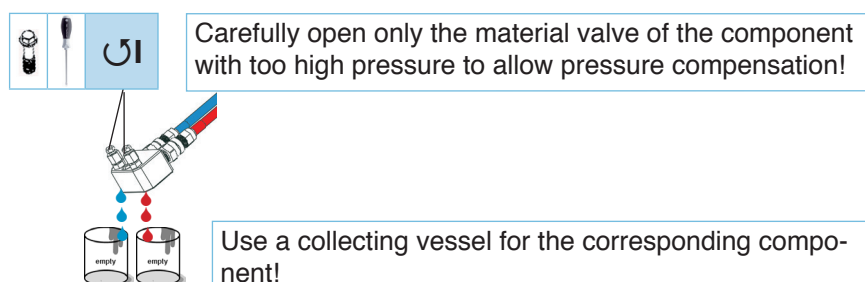


Fig. 7.6


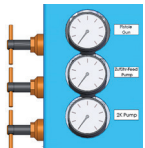
- After this pressure compensation close the valve again.

## 6. Mounting the spray gun

Mount the spray gun to the connection block. Fasten the return flow hoses to the material container.

Follow the notes in chap. "12.4.4 Connect the spray gun to the hose package", P. 12-10.

## 7. Adjust the desired spraying pressure

	Pressure (bar)	Compressed-air regulator
	6.5	Spray gun
	6	Feed Pump
	3	Metering pump

## 8. Start spraying

- Unlock the spray gun.
- Start the spraying process on a test area away from the area to be covered. Observe the chap. "12.4.6 Start spraying", P. 12-11.

## 8 Decommissioning

Switch off the equipment if you want to interrupt work.

If coating is to be continued with the material in the system, you must return the unit to parking position. In case of longer work breaks and / or when changing materials the equipment needs to be shut down.

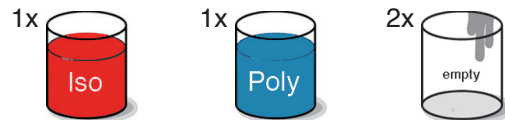


### Notice:

To avoid malfunctions of the equipment you should take notice of the following:

- Never allow the system to run empty.
- Do not use any solvents.
- Make sure that the system is in parking position.

### The following is required



Always wear the specified protective clothes.

### 8.1 Activating parking

For short work breaks you may just switch the equipment to parking position. The material temperature can be maintained.

#### 1. Activate parking in the display



### Notice:

The arrows indicate the current direction of rotation of the pump.  
In parking position the pistons stop in bottom position.

- ❑ Press the **F1** - button 5x to access the "PARKING" menu.
- ❑ Activate the button **Parcken** by pressing **On**.

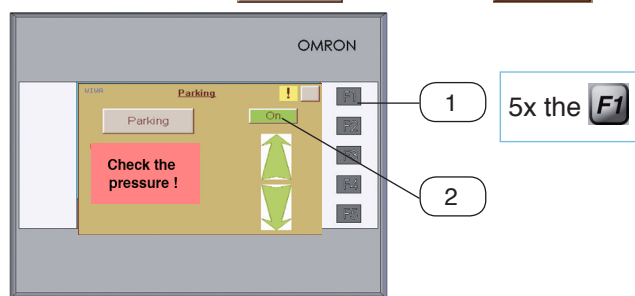
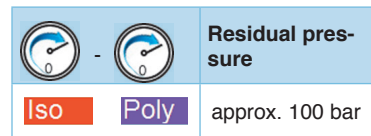


Fig. 8.1

- ❑ Reduce the pressure by carefully pulling the trigger of the spray gun.  
The pump switches off when the piston of the material pump has reached bottom position.
- ❑ Close the material valves on the spray gun.



## 2. Switch off the heating (only when required)



### Notice:

The heaters may remain activated in parking position, if necessary. This maintains the material in the system at a uniform temperature.

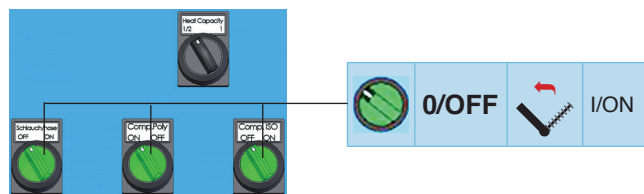



Fig. 8.2

- 3. Shut off the material and compressed air supply on the spray gun, as described in chap. "12.4.7 End spraying", P. 12-12.

## 8.2 Deactivating parking

Press the button  or switch off the equipment completely on the control cabinet.

## 8.3 Take the system out of service

Switch off the equipment completely, if you want to take it out of operation for a longer time.

- 1. Perform the work steps as described in chap. "8.1 Activating parking", P. 8-1.

Switch the heating off too. On versions with material feed container you must first pump out all material.

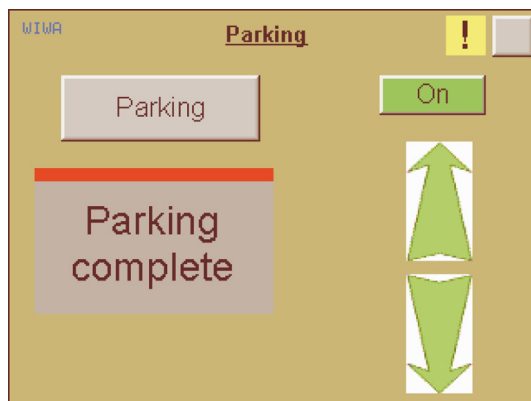



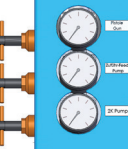
Fig. 8.3

2. Regulate the compressed air controllers on metering pump and feed pumps completely back.



**Notice:**

The compressed air settings for the spray gun can remain unchanged.

	Pressure (bar)	Compressed-air regulator
	6	Spray gun
	0	Feed Pump
	0	Metering pump

3. Close the ball valves on the feed pumps (optional).

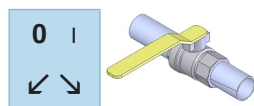


Fig. 8.4

4. Switch off the system.

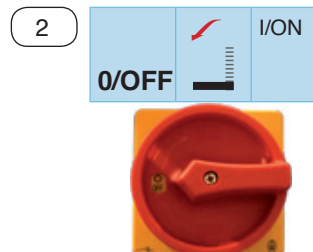
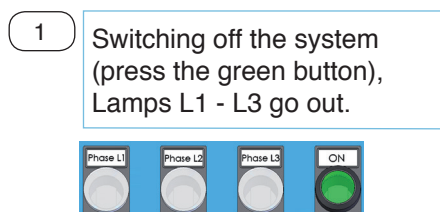


Fig. 8.5



**Attention!**

The system remains pressurized to avoid crystallization of material in the material hoses.

Any unintended escape of material from the spray gun can cause damage to persons. Do not open any shut-off ball valves or valves!



5. Clean the spray gun as specified in chap. "12.4.10 Cleaning the spray gun", P. 12-15

6. Put the feed pumps into storage (only for designs with feed pumps)

The suction hoses of the feed pumps remain in the material drums or are stored for transportation in the receptacles fill with release agent. In this case you must close the bungholes on the material drums.


**Notice:**

The receptacles for the feed pumps must always be filled with release agent.

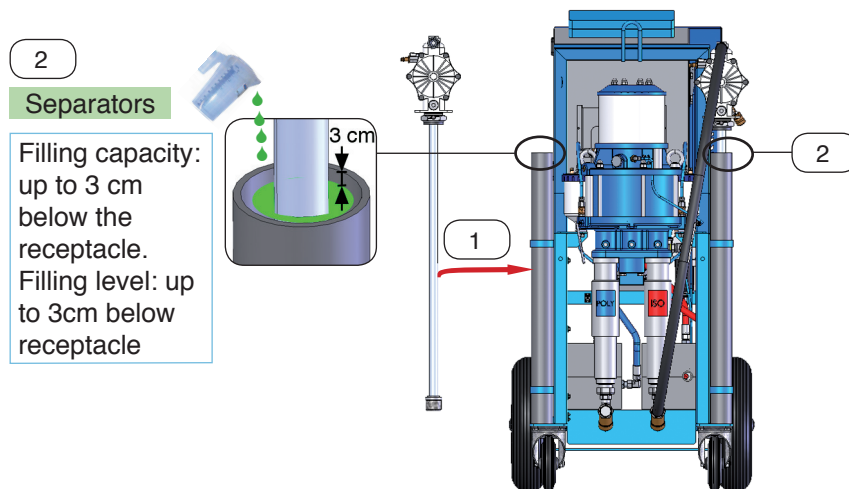


Fig. 8.6

7. Shut off the compressed air supply


**Notice:**

For short working breaks the equipment does not need to be emptied - please follow the notes of the material manufacturer.

The material to be applied can be replaced by a preserving agent recommended by the material manufacturer, if required.

Do not use any solvents!

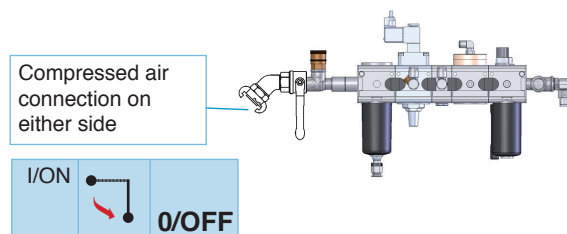


Fig. 8.7

## 8.4 Shutting down the equipment

1. Stop operation of the system as specified in chap. "8.3 Take the system out of service", P. 8-2.
2. Exchange the material drums against containers with preserving agent.
3. Fill the system with preserving agent.  
Only use the preserving agent recommended by the material manufacturer and which matches the material!
4. Allow the residual pressure escape from system and hose package, as described in chap. "8.5 Pressure relief", P. 8-5.

## 8.5 Pressure relief

### 8.5.1 Without circulation and without relief hoses

1. Disassemble the spray gun from the connection block, as described in chap. "12.4.8 Disassembling the spray gun", P. 12-12.
2. Relieve the connection block by opening both material valves.

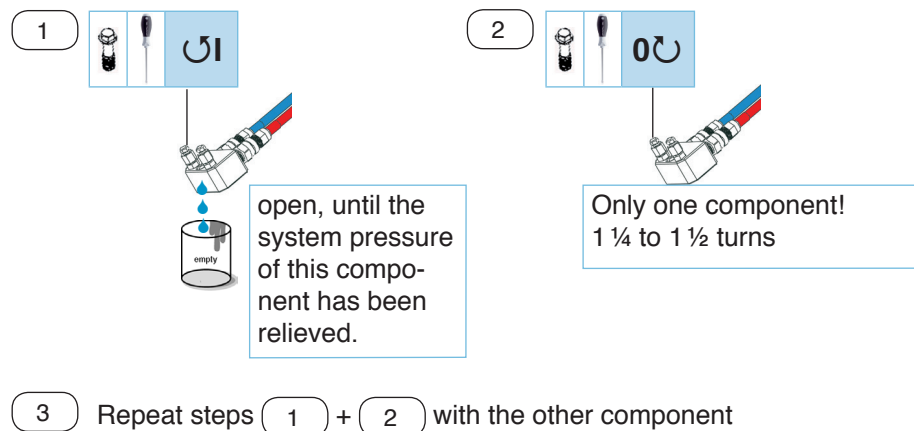


Fig. 8.8

### 8.5.2 With relief hoses (optional)

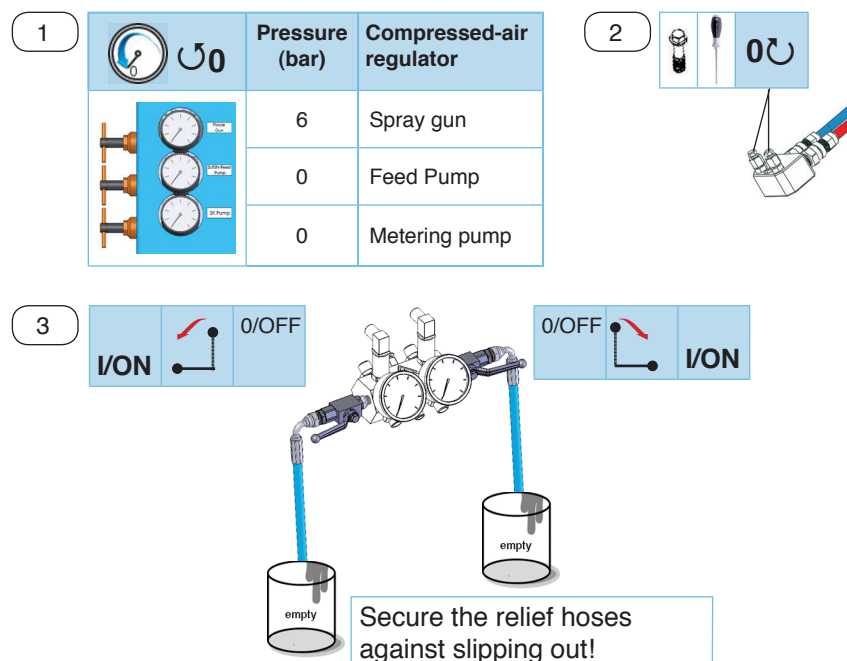


Fig. 8.9

### 8.5.3 With circulation (optional)

The material pressure in the system is relieved through the return flow hoses. The material is returned into the material drums.

After relieving the system, the pressure in the hose package be relieved by pulling the trigger on the spray gun once again.

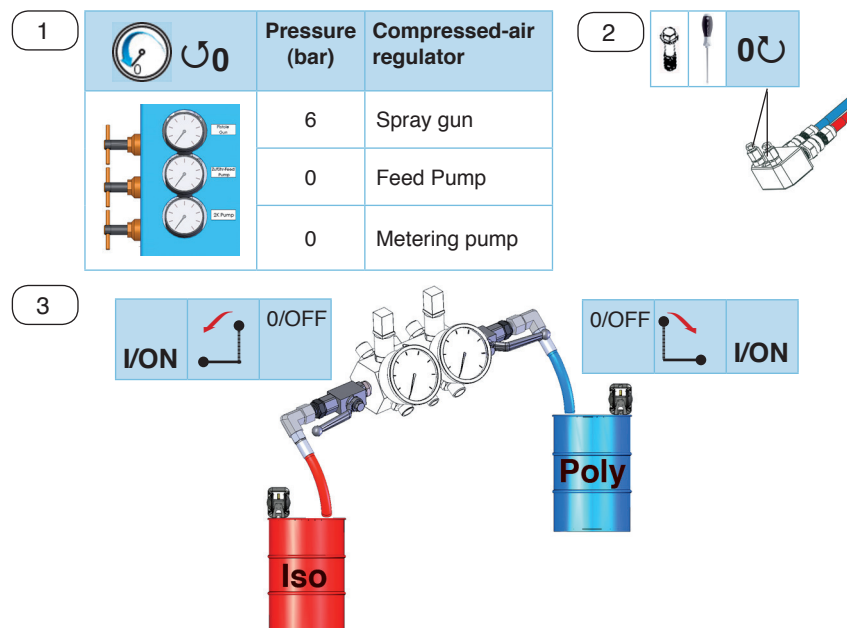


Fig. 8.10

## 8.6 Cleaning after spraying

### 8.6.1 Cleaning the system

1. Stop operation of the system as specified in chap. "8.3 Take the system out of service", P. 8-2.
2. Thoroughly clean the system from outside after each use.



**Notice:**

For cleaning use only cleaning agents recommended by the material manufacturer.

3. Fill the entire system with preserving agent.  
Please observe the notes of the material manufacturer.

### 8.6.2 Cleaning the spray gun

Clean the spray gun, including the connection block, as specified in chap. "12.4.10 Cleaning the spray gun", P. 12-15.

## 9 Barrel change

Change material drum before it is completely empty.

Never allow the system to run empty. This prevents the intake of air which could cause faults in the pressure build-up for both components and crystallization of the isocyanate.

The heating can remain switched on during the barrel change.



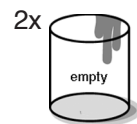
### Notice!

Ensure correct component allocation at all times!

red = Iso component (Isocyanate)

blue = Poly components (Polyol)

### The following is required



### 9.1 Without circulation

#### 1. End spraying process.

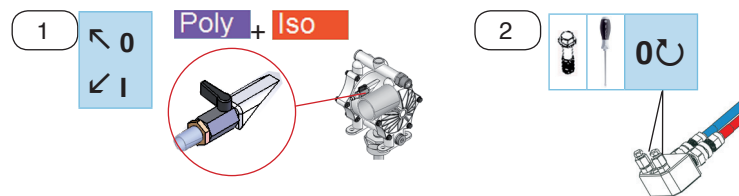


Fig. 9.1

#### 2. Exchange empty material drums for full ones.

Place the feed pumps securely into the filled material drums

#### 3. Ventilate the system

#### Possibility 1: Catch the material in the empty collecting vessel.

- 1 Disassemble the spray gun from the connection block, as described in chap. "12.4.8 Disassembling the spray gun", P. 12-12.

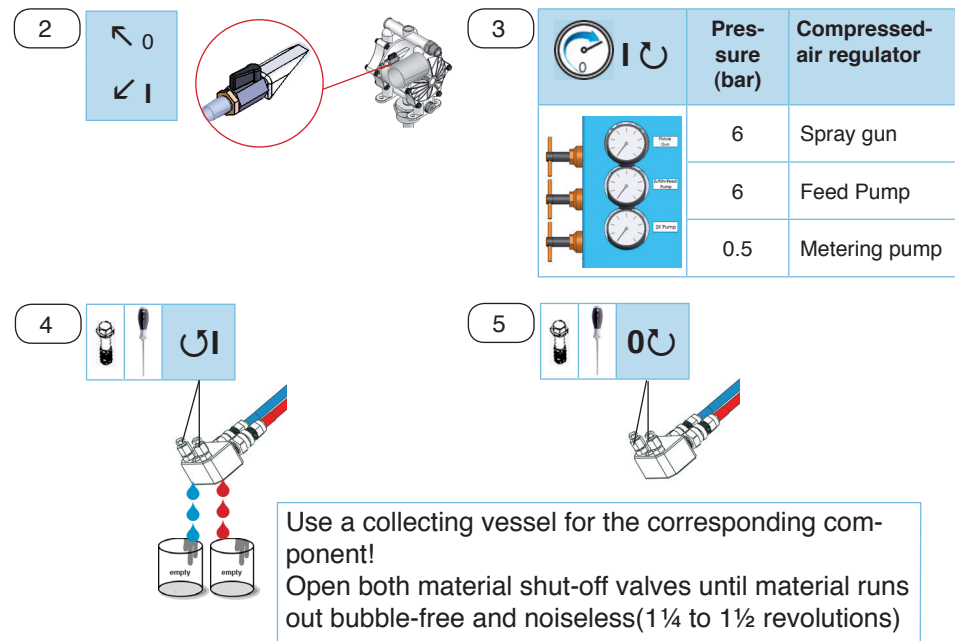


Fig. 9.2

**Possibility 2:** Pump the material back into the material drum.

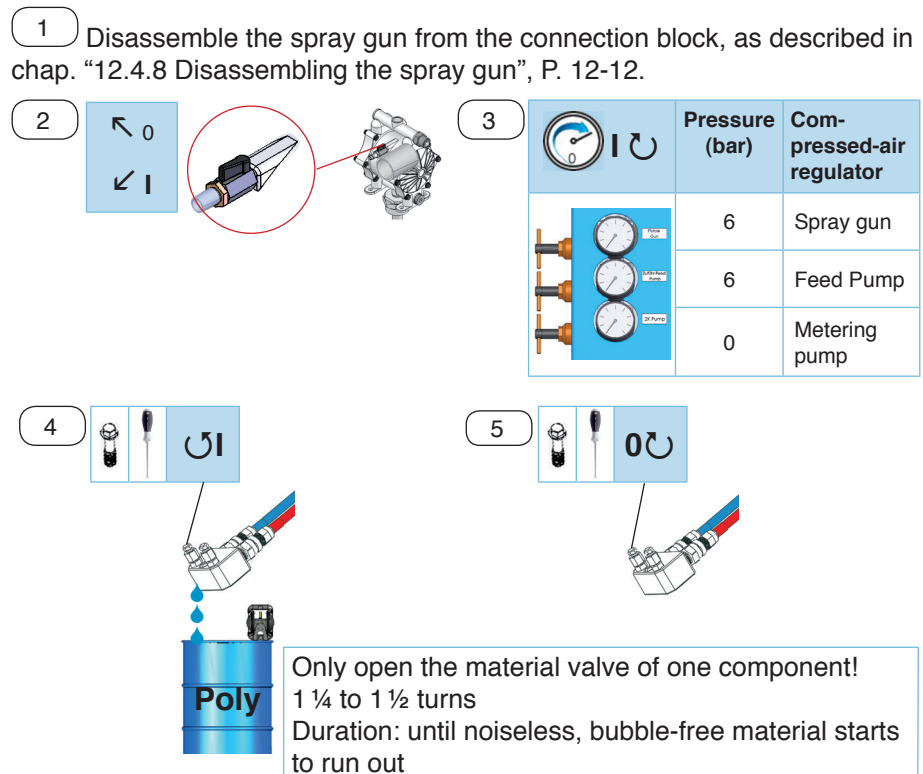


Fig. 9.3

- 6
- Thoroughly clean the material outlet opening on the connection block before repeating the procedure 4 - 5 with the other components.

#### 4. Operation

You can now resume normal operation as specified in chap. "7 Operation", P. 7-1.


**Notice:**

Pay attention to the pressure equalization of both components!

## 9.2 With circulation (optional)

### 1. End spraying process.

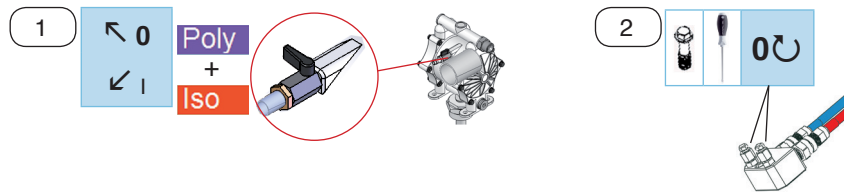


Fig. 8.11

### 2. Exchange empty material drums for full ones.

- ☐ Place the feed pumps securely into the filled material drums
- ☐ Mount the return flow hoses and secure them against accidental slipping out.

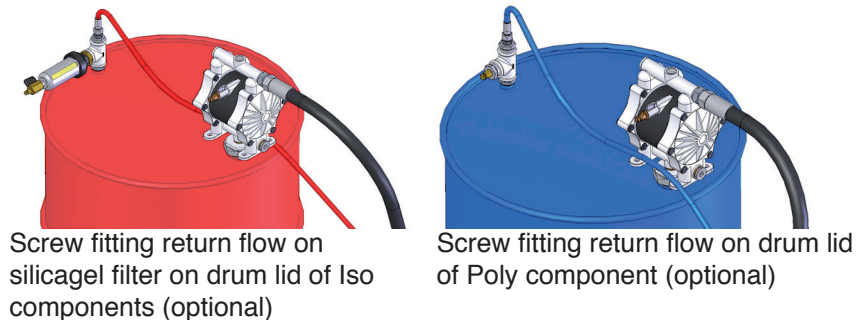
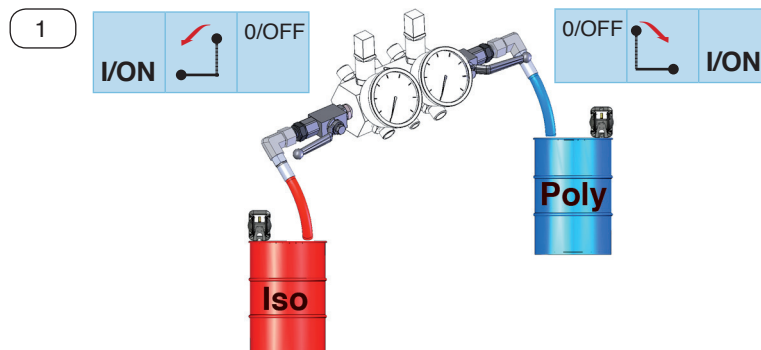


Fig. 9.4

### 3. Ventilate the system



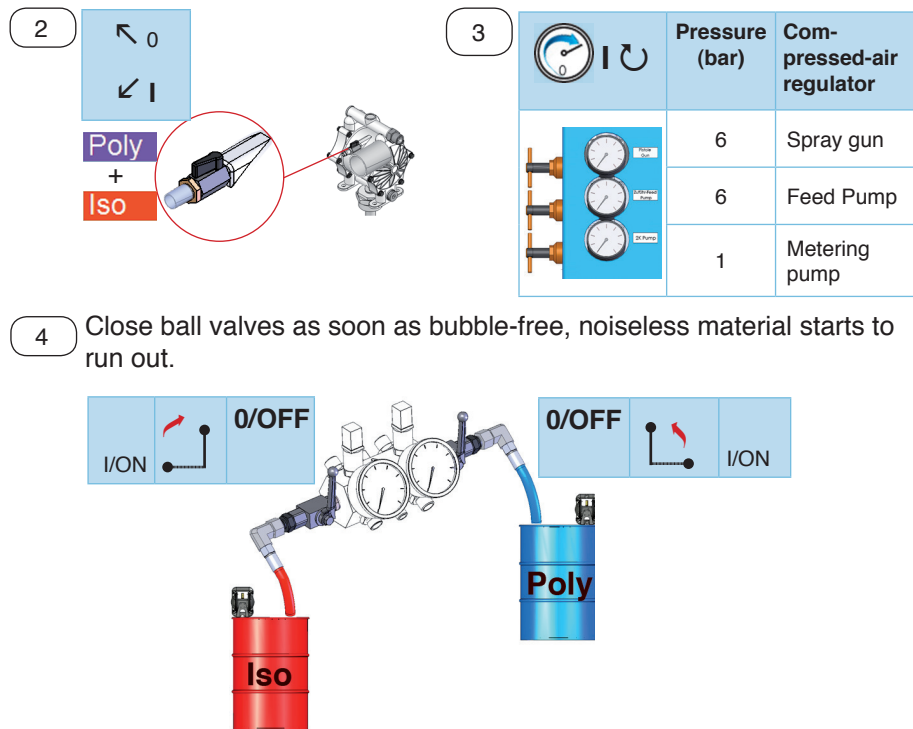


Fig. 9.5

#### 4. Taking the system into service

You can now resume normal operation as specified in chap. "7 Operation", P. 7-1.



#### Notice:

Pay attention to the pressure equalization of both components!



## 10 Material change



**Notice!**

Exchange the material drum in due time against a full one to prevent the intake of air!

**1.** Take the system out of service

Perform all work steps as described in chap. "8.3 Take the system out of service", P. 8-2.

**2.** Clean the intake screen (dirt trap)

Clean the material screen of each component on the metering pump or replace it, if excessively soiled.

**3.** Taking the system into service

Perform all work steps as described in chap. "7 Operation", P. 7-1.

# 11 Maintenance

## 11.1 Check cycles

According to the accident prevention instructions for “Work with fluid spraying equipment” BGR 500, chapter 2.36, the unit needs to be regularly inspected and serviced by an expert (WIWA® Customer Service).

**The unit needs to be inspected:**

- before initial commissioning,
- after the modification or repair of parts of the system, which could affect safety,
- after work breaks longer than 6 months,
- but at least every 12 months.

For decommissioned units the inspection can be postponed until the next commissioning. The inspection results must be recorded in writing and kept until the next inspection. The inspection report or a copy thereof must be available at the place of use of the equipment.

## 11.2 Important notes



**Attention!**

Disassembling the pressurized spraying unit can cause severe injuries to body and eyes.

- Always switch off the equipment before starting maintenance and repair work.
- Depressurize the the complete system.
- Be extremely careful when disassembling material hoses and spray gun.
- Before disassembly cover the screw connections on the material hoses with a cloth to catch possible material spatter.

## 11.3 Maintenance unit

### 11.3.1 Components of maintenance unit

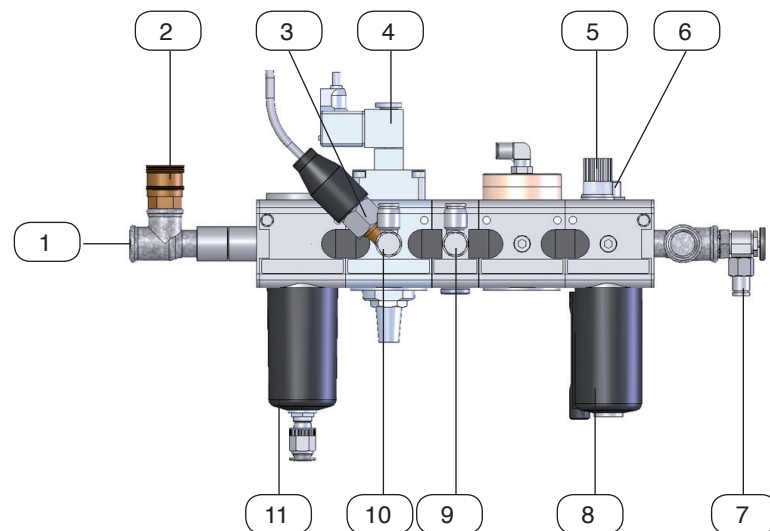


Fig. 11.1

Pos.	Designation
1	Connection compressed air line
2	Connection compressed air line optional accessories
3	Connection air inlet pressure switch
4	Shut-off valve
5	Setscrew for fog oiler
6	Filler plug
7	Connection compressed air line to metering pump
8	Oil tank
9	Connection compressed air line to feed pumps
10	Connection compressed air line to spray gun
11	Water separator

### 11.3.2 Check lubricant

Check the lubricant for the air motor in the container of the maintenance unit and top up slightly, if required.



**Notice!**

High humidity can cause icing of the motor.  
In case of icing use pure anti-freeze agent.

### 11.3.3 Adjusting the fog oiler

1. Let the metering pump run slowly.
2. Check:  
1 drop of lubricant after approx. every 10 - 15 double strokes of the air motor  
If necessary adjust the regulating screw on the lubricator with a screw driver.
3. Check the amount of oil in the oil container every day.
  - ❑ The maintenance unit must never be operated without oil.
  - ❑ The max. oil level is indicated by a circumferential groove in the bowl.
  - ❑ To fill the oil bowl loosen the filling screw and fill the reservoir directly.

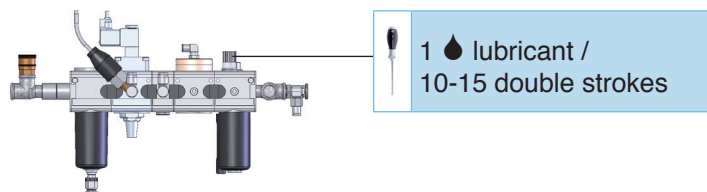


Fig. 11.2



#### Notice!

Only use the lubricants and anti-freeze agents mentioned in chap. "14.4 Operating means", P. 14-3.

### 11.3.4 Draining the condensation water

1. The accumulated condensate is automatically drained off through the drain valve. For this purpose hold the hose into an empty collecting vessel.
2. Check the bowl regularly for dirt residues and clean it as required.

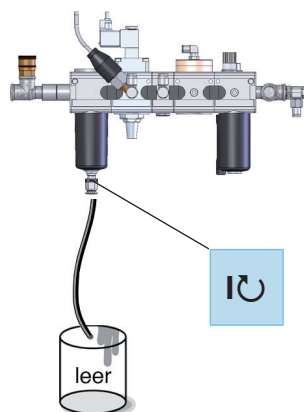


Fig. 11.3

### 11.3.5 Notes on oil reservoir and water separator

1. Disassembly:
  - ☐ Press the slide down.
  - ☐ Turn the bowl anti-clockwise.
2. Assembly:
  - ☐ Make sure the O-ring is correctly fitted.

### 11.4 Release agents

**Notice!**

This work must only be performed by personnel trained by **WIWA®** or the **WIWA®** Customer Service.

1. Check:
  - ☐ the filling level in the release agent container before each start-up: 200ml
  - ☐ for discolouration caused by spraying material at regular intervals.
2. Change the pump seals (see spare parts list for material pump).
  - ☐ in case of excessive discolouration of the release agent
  - ☐ if the level in the release agent container rises.

**Notice!**

To protect the packings use **WIWA®**- release agent.

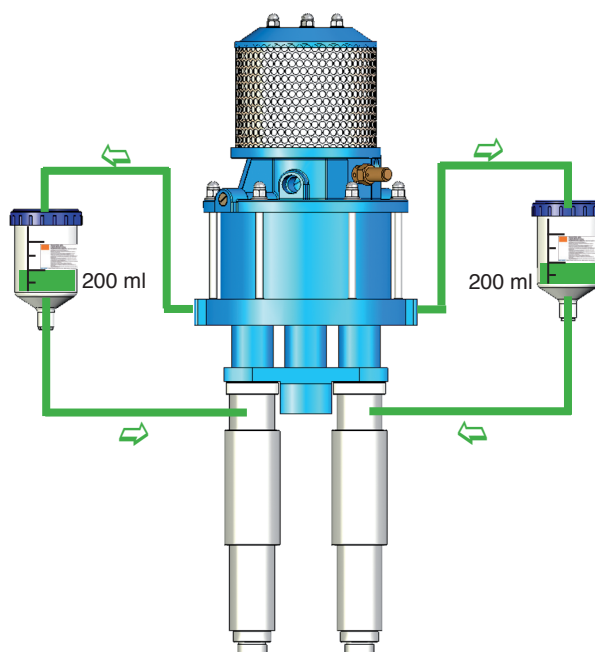


Fig. 11.4

## 12 Optional equipment

### 12.1 Circulation

Before applying the coating you must vent the entire system.

Advantages:

- Air in the system is forced out (e.g after barrel change)
- Continuous discharge of both material components is assured
- No falsification of spray pattern by sudden air shocks
- Uniform material temperature and consistency throughout the entire system
- Material flow heaters maintain the material at operating temperature

#### 12.1.1 Circulation circuit

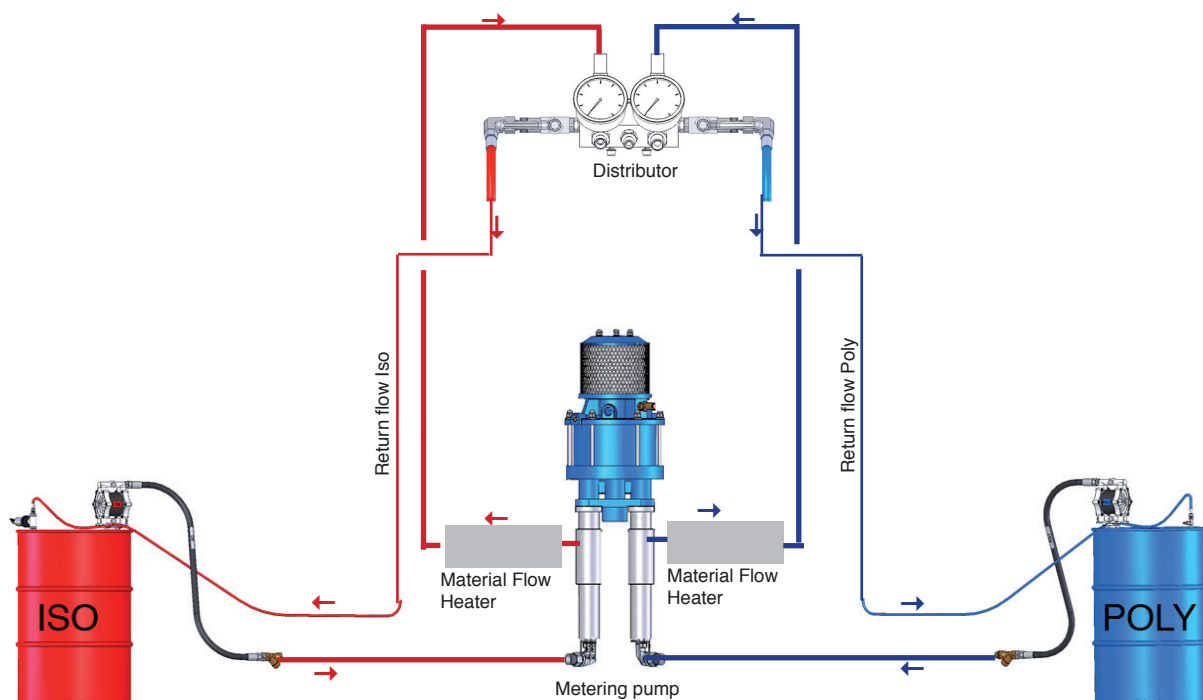


Fig. 12.1

#### 12.1.2 Circulation / ventilation

1. End compressed air supply and secure spray gun.

The return flow hoses are reliably connected with material drums and distributor.

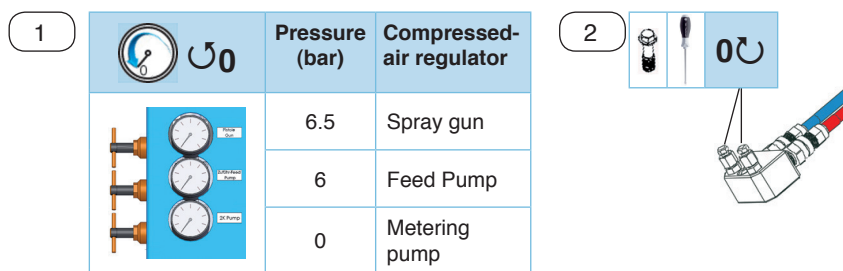


Fig. 12.2

## 2. Open the circulation and start to supply with compressed air

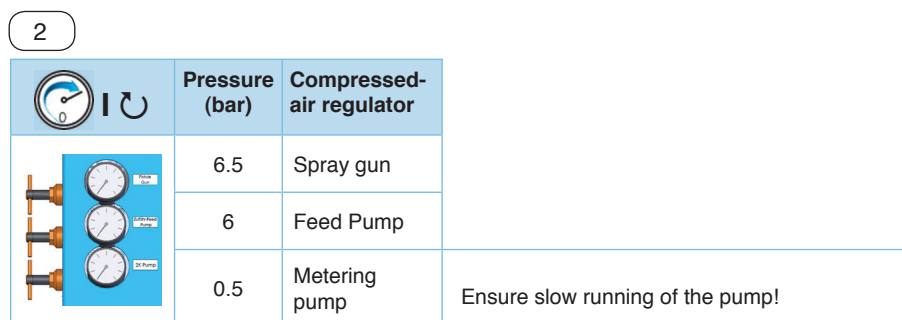
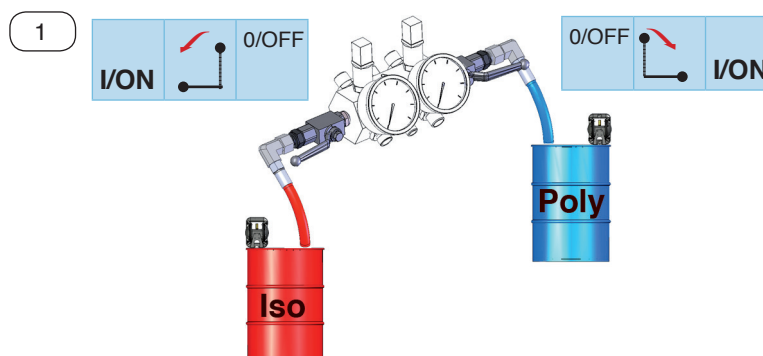
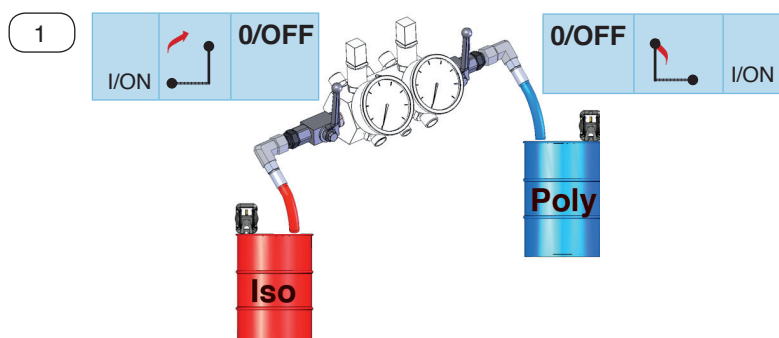
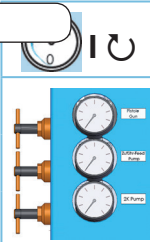


Fig. 12.3

## 3. Stop circulation



	Pressure (bar)	Compressed-air regulator	
	6	Spray gun	
	6	Feed Pump	
	3	Metering pump	Adjust the desired spraying pressure!

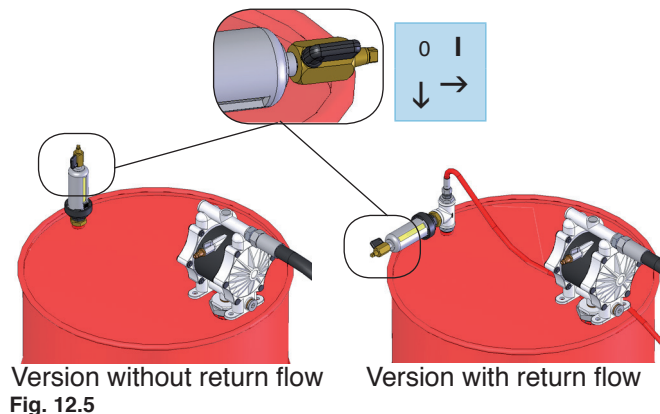
**Fig. 12.4**



## 12.2 Silicagel filter

The silicagel filter is a moisture filter for installation in the drum lid of the Iso component.

- If humidity saturation is reached, granulate colour changes from orange to colourless. For the filter to function properly, the granulate needs to be regularly dried, (Fig. 12.6) + (Fig. 12.7).
- During operation, the ball valve on the silicagel filter must be opened.
  - ❑ Only close the ball valve during longer downtimes of the system, to prevent humidity from entering through the filter, (Fig. 12.5).



### Regenerating granulate

#### 1. Disassemble silicagel filter

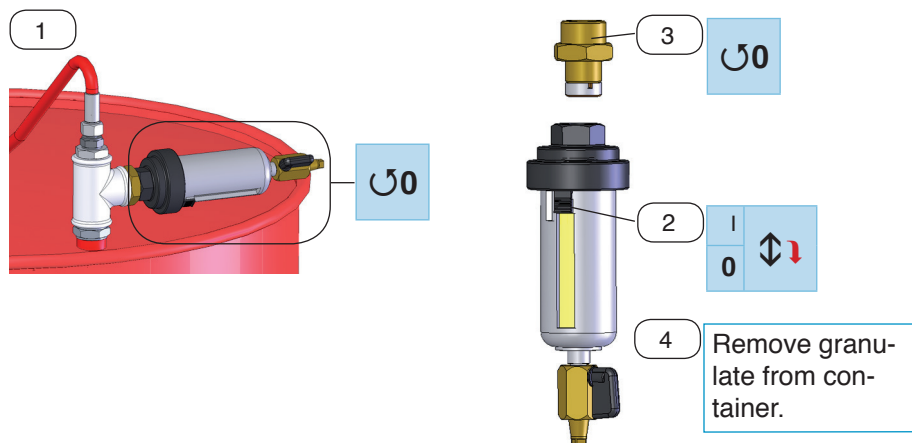


Fig. 12.6

#### 2. Dry granulate

- Drying is required: in case of discolouration of the granulate from orange to colourless
- Drying temperature: approx. 130° C - 160° C
- Renewed adsorption capacity after colouration from colourless to orange

#### Caution!

Only heat up the granulate. Heating up the complete filter can damage the housing.

### 3. Install silicagel filter

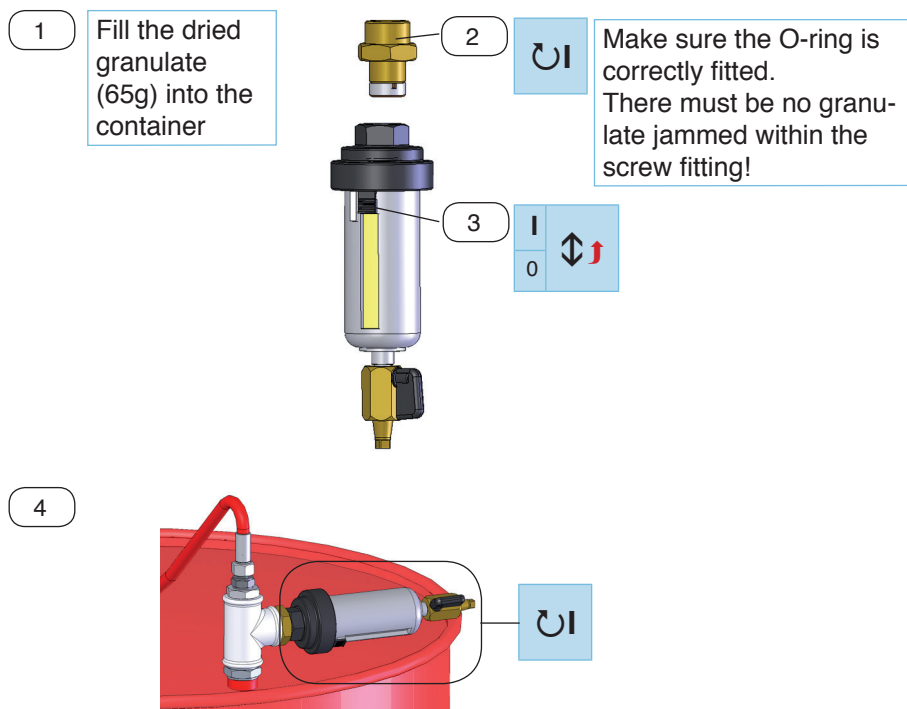


Fig. 12.7

## 12.3 Mounting kit USB-port

### Mounting kit USB-port

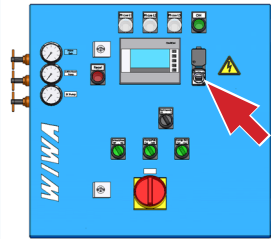


Fig. 12.8

1. Plug the USB-stick (not included in the scope of delivery) into the front panel of the control cabinet



Fig. 12.9

2. Open the datalog menu with **F1** / **F2**
3. Press button "Save data log"



Fig. 12.10

4. Saving is in progress "Loading active"

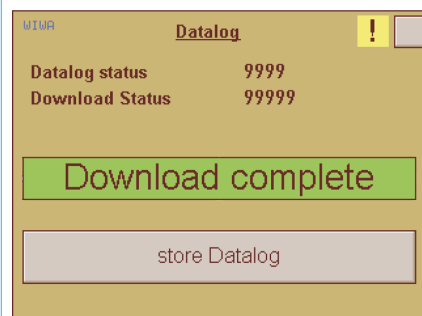


Fig. 12.11

5. Saving finished "Download finished" => remove the USB-stick

Occurring malfunctions are saved numerically in a alarm register.

Example of data saved to the stick:

TIME	Vol_tag_Dat	Temp_Poly_I	Temp_Iso_D	Temp_Schlat	Druck_Poly_I	Druck_Iso_D	Alarmregistre	Alarmregistre	Vol_
16:15:29	28	21	53	5	86	75	0	0	
16:15:32	28	21	53	5	86	75	2	0	
16:15:34	28	21	53	5	86	75	0	3	
16:15:35	28	21	53	5	86	75	5	0	
16:15:38	28	21	53	5	86	75	0	0	
16:15:40	28	21	53	5	86	75	2	0	
16:15:41	28	21	53	5	86	75	1	4	
16:15:46	28	21	53	5	86	75	0	0	
16:15:48	28	21	53	5	86	75	3	0	
16:15:50	28	21	53	5	86	75	4	0	
16:15:52	28	21	53	5	86	75	6	0	
16:15:54	28	21	53	5	86	75	0	0	
16:15:58	28	21	53	5	86	75	8	0	
16:16:00	28	21	53	5	86	75	2	0	
16:16:02	28	21	53	5	86	75	0	0	

Fig. 12.12

In the alarm register each malfunction is saved with a code, see following table.

This way you can assign a certain malfunction to each saved value.

Code	Alarm register 1 Individual malfunction in the system	Alarm register 2 Cable breakage and sensor fault
0	no malfunction	no malfunction
1	Poly overpressure	Poly sensor fault
2	Iso overpressure	Iso sensor fault
3	Fuse has tripped	Sensor hose fault
4	Poly overtemperature	Poly press. sensor fault
5	Iso overtemperature	Iso press. sensor fault
6	Pressure differential Poly higher than Iso	
7	Pressure differential Iso higher than Poly	
8	Insufficient compressed air supply	
9	Hose package fault	
10	Reset blocked	

## 12.4 Spray gun

### 12.4.1 Spray gun components

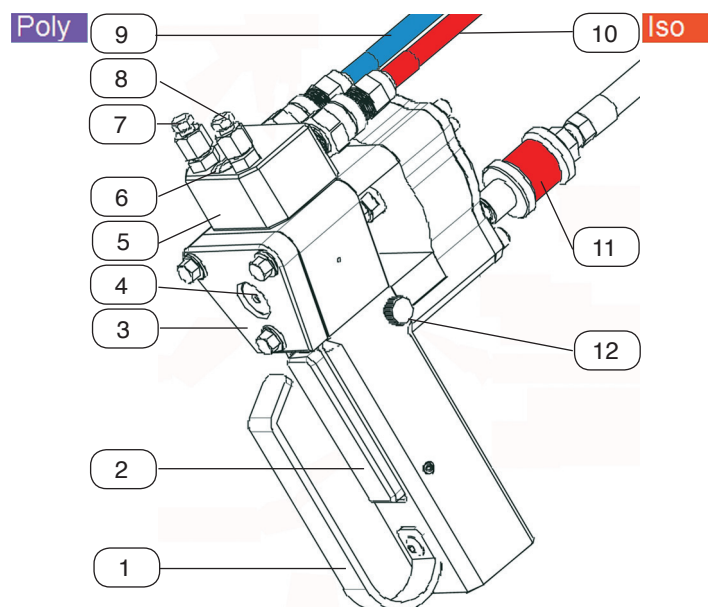


Fig. 12.13

Pos.	Description
1	Protection bow
2	Trigger
3	Front cap
4	Round jet nozzle
5	Connection block
6	Screw to mount the connection block to the spray gun
7	Material shut-off valve comp. Iso
8	Material shut-off valve comp. Poly
9	Material hose comp. Poly
10	Material hose comp. Iso
11	Air pressure valve
12	Spray jet regulation

## 12.4.2 Safety features

The spray gun can be secured as follows:

- **1** Air pressure valve (trigger lock)  
The spray gun cannot be operated without air pressure in the air pressure cylinder.  
To lock the spray gun press the air pressure valve back away from the compressed air cylinder, which is thereby relieved through the valve.
- **2** Material shut-off valves  
No material comes out of the spray gun when the valves are closed.  
In order to secure the the spray gun additionally this way you must turn the valves in clockwise direction, until they are closed.

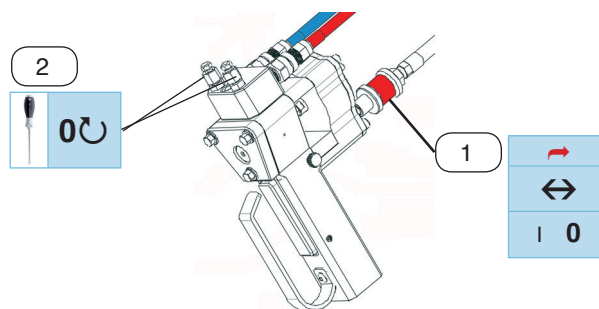


Fig. 12.14



### Attention!

During operation both components are applied to the material valves with high pressure. Unintended material leakage from the material valves can cause serious injuries and material damage.

Only open the material valves:

- with the spray gun closed,
- if the material outlets of the connection block are directed into a suitable container.

## 12.4.3 Notes on operation

- For spraying both material valves must be opened (1½ turns) and compressed air must be connected.
- When the spray gun is not in operation you must keep the air pressure adapters free of foreign particles.
- Use only clean and dry compressed air, to avoid the formation of droplets in the spray pattern.
- The front plate of the spray gun must be very clean and free of score marks.
- The front plate must remain attached at all times when the manual valves are open.
- The front plate screws must be tightly fastened with a spanner.
- Before starting spraying check the function of the trigger.
- The spray jet and the air needed to clean the nozzle can be adapted with the spray jet regulating screw, if required (max. ¼ - ½ revolutions).

- Consult the material manufacturer concerning suitable cleaning and flushing agents. Make sure that the cleaning agents will not cause swelling of the O-rings.
- Do not soak O-rings or the mix module in solvents. Solvents must solely be used for cleaning and should then be wiped off again immediately.
- Never submerge the complete spray gun in solvent. This could damage the O-rings.

#### 12.4.4 Connect the spray gun to the hose package

1. Connect the material valves to the connection block

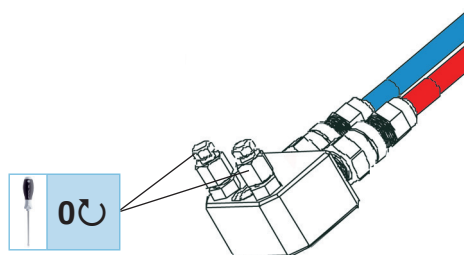


Fig. 12.15

2. Assemble the material hoses to the connection block

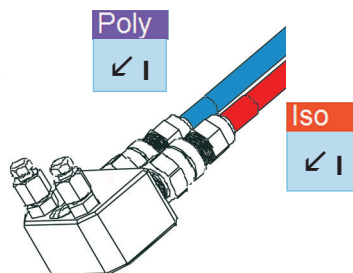


Fig. 12.16

3. Mount the connection block to the spray gun

- 1 Make sure that the filter elements are seated correctly in the spray gun and that the O-rings on filter element and connection block are present.

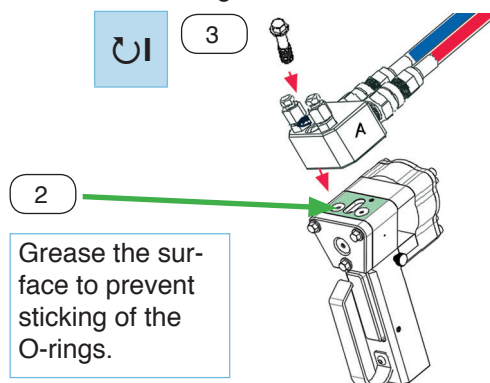


Fig. 12.17

#### 4. Connect the compressed air hose to the spray gun

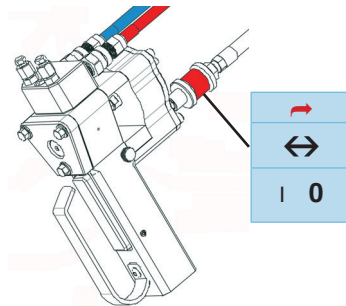


Fig. 12.18

### 12.4.5 Check spray gun

Before operation check the correct use of the spray gun:

- Spray pattern regulating valve for spraying fog,
  - Front cap for leakages,
  - the rear seals on the nut for leakages, (Fig. 12.19).
- Tighten the nut only so far, that leakages are eliminated. Do not overtighten.

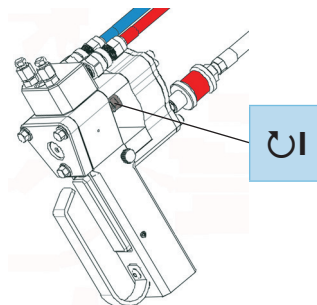


Fig. 12.19

### 12.4.6 Start spraying

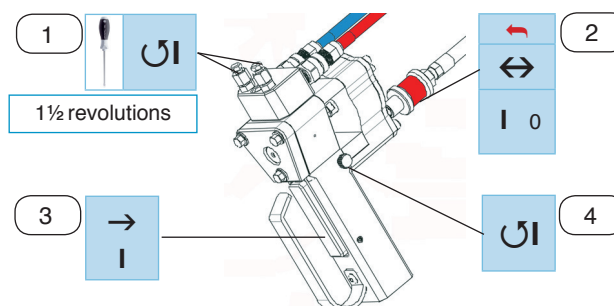


Fig. 12.20

1. Open the material valves
2. Open the air pressure valve
3. Pull the trigger
4. Adjust spray jet regulating screw



### 12.4.7 End spraying

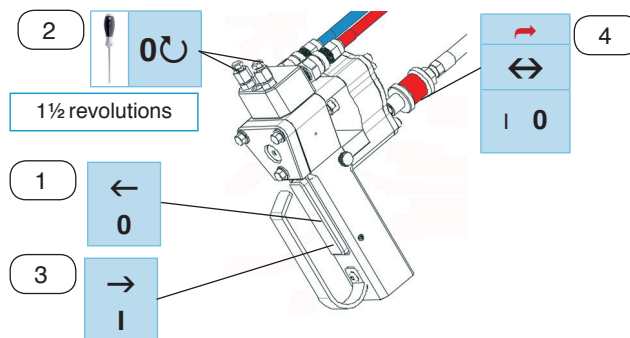


Fig. 12.21

1. Release the trigger
2. Connect the material valves to the connection block
3. to remove possibly adhering material plugs by pulling the trigger once again
4. Close the air pressure valve

### 12.4.8 Disassembling the spray gun

1. Connect the material valves to the connection block
2. Operate the trigger on the spray gun once again
3. Close the air pressure valve and pull off the compressed air hose
4. Loosen the fastening screws on the connection block

### 12.4.9 Spray gun maintenance

#### 12.4.9.1 Lubrication

- Lubricate the air inlet every day with 2 - 3 drops of spray gun oil.
- Lubricate the grease nipple regularly with grease, until clean grease appears in the module receptacle.

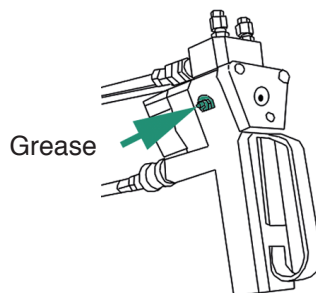


Fig. 12.22

### 12.4.9.2 Filter change

- Soiled or damaged material filters can cause malfunctions in the spraying process, such as e.g. overpressure of a component. You should therefore clean the filters in regular intervals.
- Use the material filters recommended by thy material manufacturer for your spraying material. Make sure that each O-ring that is applied to the filter is clean and free of damage.



**Notice!**

The filter size depends on the mix module used!

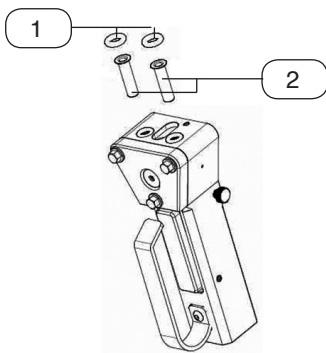
	Pos.	Description
	1	O-ring
	2	Material filter

Fig. 12.23

### 12.4.9.3 Changing the mix module

Replace the mix module before it is worn. Using a worn module will cause extremely high paint consumption and adversely affects the quality of material application.



**Notice!**

Filter and mix module must always be kept clean to avoid malfunction of the spray gun.



**Notice!**

Mix module and round jet nozzle as well as cleaning drill must be matched to each other. The size of the mix module depends on the material to be processed Consult your material manufacturer!

**Disassembly:**

1. Disassemble the spray gun as described in chap. "12.4.8 Disassembling the spray gun", P. 12-12 before you start the replacement.
2. After removing the front cap (( 4 )), the round jet nozzle (( 3 )) and the mix module (( 2 )) check the inlets and outlets of the filter element and the mix module for cleanliness and possible connection blockage. Use a drill of appropriate diameter to remove possible material residues.
3. Use the mix module size recommended by the material manufacturer for your spraying material.

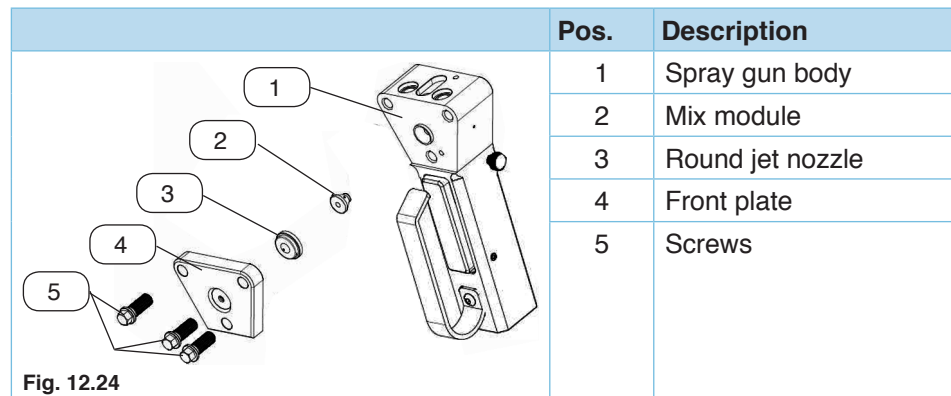


Fig. 12.24

**Assembly:**

- Slide the module with the smaller diameter forward over the valve rod in the spray gun body.
  - Carefully align the pin of the module in the recess of the module seat ring.
  - Press the module firmly into its seat, (Fig. 12.25).
  - Check the correct seat of the pin once again.

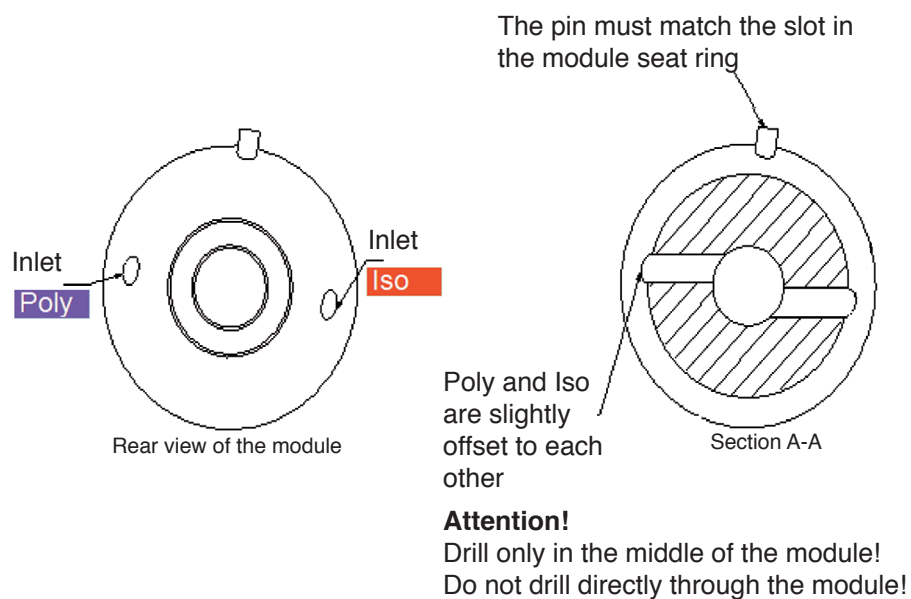


Fig. 12.25

- Check the round jet nozzle for cleanliness. The nozzle can be cleaned with a drill of appropriate size.
- Apply a slight amount of grease to the round jet nozzle. Slide the round jet nozzle over the mix module.
- Mount the front cap (5) over the round jet nozzle (Fig. 12.24) with the three screws (4).
  - Tighten the screws very tight (SW8).
  - Slightly grease the front face of the front cap.

## 12.4.10 Cleaning the spray gun

1. Disassemble the spray gun from the connection block.

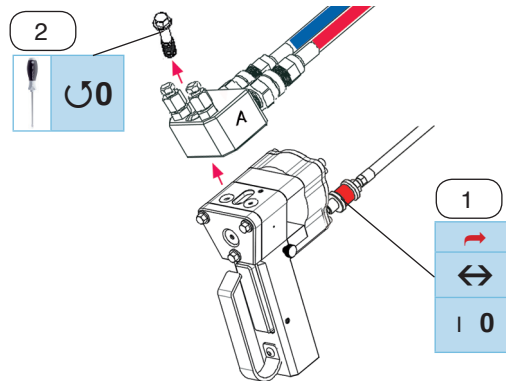


Fig. 12.26

2. Dismantle and clean the spray gun.

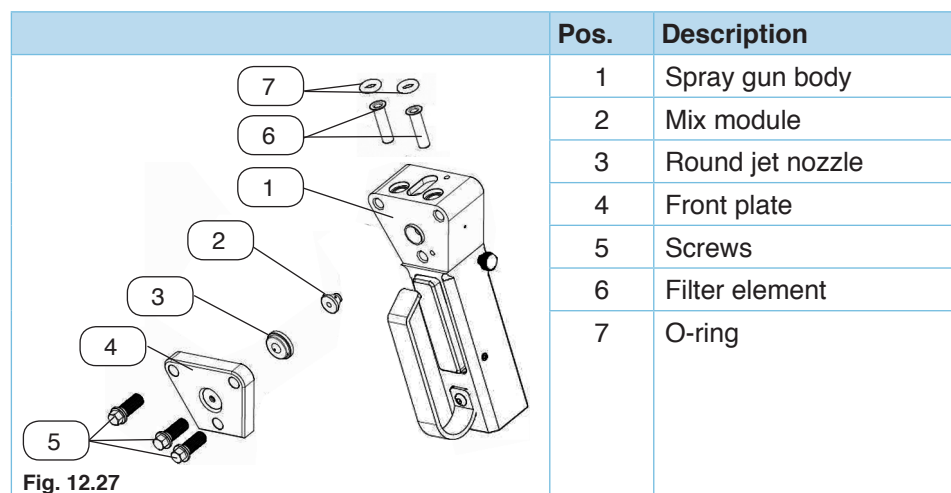


Fig. 12.27



Remove all material residues from all parts and material conducting passages.

**Notice!**

Use a cleaning agent soaked cloth to remove deposits (e.g. caused by spray fog) from the spray gun.

Never submerge the spray gun in solvent for cleaning, since this will cause damage to the O-rings and the slide valve of the trigger.

3. Clean the connection block.

Clean the outside of the connection block with a cloth soaked in cleaning agent.

Thoroughly remove any material residues from the material outlet opening.

4. Grease the contact areas on spray gun and connection block.



**Notice!**

Use only lubrication greases recommended by the material manufacturer.

## 13 Malfunctions and Troubleshooting

### 13.1 General troubleshooting

Fault	Possible cause	Remedy
1. The equipment does not start.	➤ Energy supply interrupted (no compressed air, no electric power supply).	➤ Ensure compressed air and electric power supply
	➤ Master switch in position "OFF".	➤ Switch the master switch to "ON".
	➤ Equipment not switched on.	➤ Switch on the equipment.
2. The feed pumps work without interruption, no material comes out of the spray gun.	➤ The material drum is empty.	➤ Replace the material drum.
	➤ The intake is defective a pump draws in air.	➤ Replace the intake.
	➤ The intake screen is clogged.	➤ Clean or replace the intake screen.
	➤ Material feed pump(s) is (are) defective.	➤ Repair the feed pump(s).
3. The feed pump does not deliver any material into the dual component system.	➤ The dirt trap before the material inlet on the dual component system is soiled.	➤ Clean the dirt trap of the dual component system.
4. No pressure built up by a pump during downwards stroke of metering pump. The pressure of the other components rises.	➤ The bottom valve of the pump without pressure is soiled or defective.	➤ Disassemble and clean the bottom valve. ➤ Replace defective ball or valve plate.
5. No pressure built up by a pump during upwards stroke of metering pump.	➤ The piston valve of the pump without pressure is leaking.	➤ Disassemble and clean the piston valve. ➤ Replace defective ball or valve plate.
6. A pump does not generate pressure in up and down stroke. The pressure of the other component is very high.	➤ The pump without pressure does not receive any material.	➤ Check the material supply.
	➤ Both valves soiled or defective.	➤ Check the valves.
7. When venting, the pressure of one component remains applied. The pressure of the other component drops.	➤ Return flow hoses (optional), material hose or spray gun are clogged.	➤ Check return flow hose (optional) and material hoses for free flow. ➤ Check the valves.
8. When spraying the pressure of a component always increases in comparison with the other component.	➤ The packings in the pump without pressure start leaking.	➤ Repair the pump without pressure (renew the packings).
	➤ Filter in spray gun clogged.	➤ Clean the filter.
	➤ Mixing chamber clogged.	➤ Clean the mixing chamber.

Fault	Possible cause	Remedy
9. When spraying not enough pressure or material is transferred to the spray gun, even though the pressure in the system is high enough.	➤ Material hose or spray gun connection blocked by deposit growth.	➤ Clean or replace material hoses and spray gun.
	➤ The mixing chamber in the spray gun is clogged.	➤ Replace the mixing chamber in the spray gun.
10. Compressed air escaping from the air motor at the guide axes.	➤ The air motor seals are worn.	➤ Seal the air motor.
11. When spraying the air motor of the metering pump runs jerkily. The spraying pressure indicated by the pressure gauges and the air pressure drop when the spray gun is opened.	➤ The cross-section of the compressed air supply line is too small.	➤ Increase the cross-section of the compressed air line.
	➤ The air pressure in the supply network is too low.	➤ Increase the air pressure in the network.
12. The air motor no longer works, even though the compressed air supply is assured. No material pressure available in the system.	➤ The air motor control is defective.	➤ Have the air motor repaired by the <b>WIWA®</b> Service.
	➤ Fuse for pneumatic valve defective.	➤ Have the fuse replaced by a skilled electrician according to the wiring diagram.
13. The filling level of the release agent container and/or the colour of the release agent changes.	➤ The seals on the material pumps are worn.	➤ Replace the seals on the material pumps.
14. A material flow heater does not heat up.	➤ Technical defect in the material flow heater.	➤ Have the material flow heater examined by a skilled electrician.

## 13.2 Troubleshooting on the spray gun

Fault	Possible cause	Remedy
1. The valve rod does not trigger.	➤ No air pressure available.	➤ Connect the air supply and open the air valve.
	➤ Insufficient air pressure available.	➤ Set the air pressure to 5.5-9bar.
	➤ Rear sealing nut excessively tightened.	➤ Slightly loosen the nut.
2. Spray fog on round jet nozzle, even though the trigger has not been actuated.	➤ Screws on front plate loose.	➤ Tighten the screws on the front plate with a spanner.
	➤ The rear side of the front plate is soiled.	➤ Clean the front plate and check for score marks.
	➤ Mix module bore worn.	➤ Replace the mix module.

Fault	Possible cause	Remedy
3. Increased overspraying.	➤ Excessive air flow to the front cap.	➤ Reduce the air flow with the regulator.
	➤ Material pressure set too high.	➤ Reduce the material pressure.
4. Round spray pattern forms "fingers" or is deformed.	➤ The round jet nozzle is soiled or worn.	➤ Clean the round jet nozzle with an appropriate drill. ➤ Replace the round jet nozzle.
5. Pressure fluctuations.	➤ Mix module inlets and outlets soiled or worn.	➤ Clean the mix module inlets and outlets with an appropriate drill or replace the mix module.
	➤ Viscosity of components not uniform.	➤ Regulate the material temperature accordingly.
	➤ Filter element dirty.	➤ Clean or replace the filter elements.
	➤ Check valves dirty.	➤ Clean or replace the check valves.
6. Gelated or hardened material in the air channels to the front cap.	➤ Incorrectly directed material, air in hoses.	➤ Clean or replace the check valves.
7. Material emerges from the back side seal.	➤ Sealing nut loose.	➤ Slightly tighten the sealing nut.
	➤ Back side seal worn or damaged.	➤ Replace the backside seal.
8. Rapid build up of material on the round jet nozzle or the front cap.	➤ Insufficient air flow to the front cap.	➤ Increase the air flow to the front cap.
9. Spray gun triggers only very slowly.	➤ O-rings dry or worn.	➤ Wet the spray gun with spray gun oil. ➤ Replace and lubricate the O-rings.
10. Pressure loss on air outlet.	➤ Damaged O-rings on slide valve.	➤ Replace the O-rings on slide valve.
	➤ Damaged O-ring on piston.	➤ Replace the O-rings on piston.


## 13.3 Error messages on the control cabinet

Fault	Possible cause	Remedy
1. Display readings: "Overpressure Iso".	➤ Mixing element clogged on the Poly-side.	➤ Dismantle the spray gun and relieve the valve of the Poly component.
	➤ Spray gun filter Poly clogged.	➤ Clean spray gun filter Poly.
	➤ Dirt trap Poly clogged.	➤ Clean dirt trap Poly.
	➤ Sensor cable Poly not connected or defective.	➤ Connect or repair the sensor cable.
	➤ Air in system.	➤ Ventilate the system.
2. Display readings: "Overpressure Poly".	➤ Mixing element clogged on the iso-side.	➤ Dismantle the spray gun and relieve the valve of the Iso component.
	➤ Spray gun filter Iso clogged.	➤ Clean spray gun filter Iso.
	➤ Dirt trap Iso clogged.	➤ Clean dirt trap Iso.
	➤ Sensor cable not connected or defective.	➤ Connect or repair the sensor cable.
	➤ Air in system.	➤ Ventilate the system.
3. Display readings: "Overtemperature ISO" - Reset flashing.		➤ Switch off heating „ISO“.
	➤ Temperature sensor defective.	➤ Have the temperature sensor inspected by a skilled electrician.
	➤ Control defective.	➤ Have the control inspected by a skilled electrician.
	➤ Sensor line not connected or defective.	➤ Check the sensor line.
4. Display readings: "Overtemperature Poly" - Reset flashing.		➤ Switch off heating „Poly“.
	➤ Temperature sensor defective.	➤ Have the temperature sensor inspected by a skilled electrician.
	➤ Control defective.	➤ Have the control inspected by a skilled electrician.
5. Display readings: "Sensor Poly" or "Sensor Iso" or "Sensor hose".	➤ Sensor defective or sensor cable not connected.	➤ Repair the sensor or connect the sensor cable.
6. Display readings: "Poly press. sensor" or "Iso press. sensor".	➤ Cable breakage	➤ Repair or replace cable.




Fault	Possible cause	Remedy
7. Display readings: "Pressure differential Poly higher than Iso" (only in automatic mode).	➤ Filter Iso clogged.	➤ Clean Iso filter.
	➤ Material drum Iso empty.	➤ Replace or fill the Iso material drum.
8. Display readings: "Pressure differential Iso higher than Poly" (only in automatic mode).	➤ Filter Poly clogged.	➤ Clean Poly filter.
	➤ Material drum Poly empty.	➤ Replace or fill the Poly material drum.
9. Display readings: "Fuse has tripped".	<ul style="list-style-type: none"> <li>➤ Short circuit.</li> <li>➤ Overloading of material flow heaters or hose package.</li> </ul>	➤ have fuse checked and acti- vated by a skilled electrician.
10. Display reading: "Reset blocked".	➤ Reset button pressed longer than 30 seconds.	➤ Release the reset button.
11. Display readings: "hose package heating" - System shuts down.	➤ no temperature increase despite the heating being switched on.	➤ Have the hose (3m whip) inspected by a skilled electrician or replace it.
12. Insufficient compressed air supply.	➤ Air inlet pressure below 4 bar.	➤ Set the air inlet pressure to min. 4 bar.
		➤ Use a compressed air line.
		➤ Increase the compressor power.
	➤ no compressed air, even though the system is switched on.	➤ Check and ensure the com- pressed air supply
13. No compressed air available after starting the system.	➤ Fuse for pneumatic valve defective.	➤ Have the fuse replaced by a skilled electrician accord- ing to the wiring diagram.
14. The control light of one or several phase monitoring features does not light.	➤ Master switch not switched on.	➤ Switch on the master switch.
	➤ One or several phases miss- ing.	➤ Have the phases checked by a skilled electrician accord- ing to the wiring diagram.
	➤ Fuse defective.	➤ Have the fuse replaced by a skilled electrician accord- ing to the wiring diagram.
15. System shuts down.	➤ The ELCB is triggered due to the increased leakage current on the heating conduc- tor on the hose package and/or the cartridge.	➤ Get a qualified electrician to inspect the heating conduc- tor of the hose package and/ or cartridge for faults (e.g. in- sulation faults) and repair it.

**Notice!**

Each time a fault has been corrected, the Reset button  must be pressed. You access the menu which was active before the fault.

If the system has shut down, you must restart it by pressing the green

"ON" button .

### 13.3.1 Replacing fuse



#### Caution!

Unprofessional work on live power lines can cause severe injuries caused by electric shock.

Any work on live power lines must solely be performed by professional electricians and with the power shut off.

Locally valid regulations must be followed at all times.

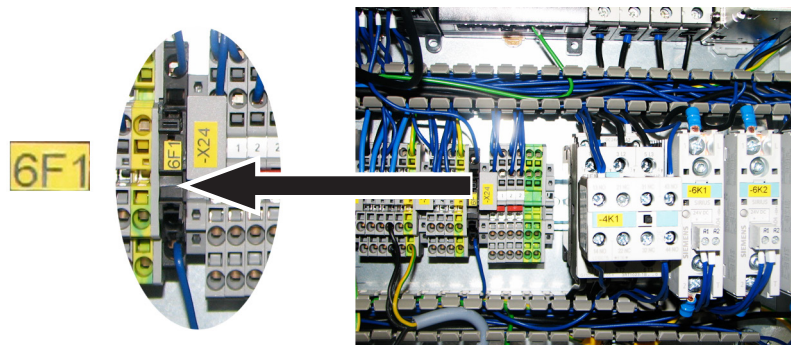


Fig. 13.1 Fuse in the control cabinet

1. Take the system out of service

2. Tip housing forward

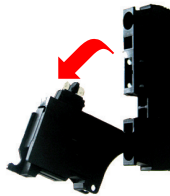


Fig. 13.2

3. Open casing cover

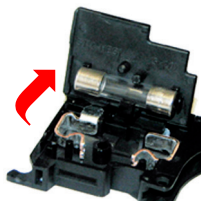


Fig. 13.3

4. Replace fuse

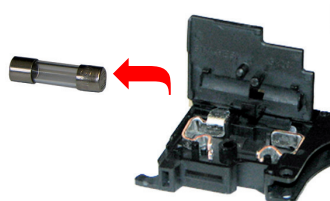


Fig. 13.4

## 14 Appendix

### 14.1 Technical data

		Version with pneumatic motor		
Mixing ratio		1:1	1,4:1	
Max. operating pressure (bar)		240	252	
Pressure ratio		30:1	56:1	
Pump capacity per double stroke (cm³)		194,4	103,1	
min. air inlet pressure (bar)		4		
Max. inlet pressure (bar)		8		
Application capacity max. ( $\frac{l}{min}$ )		12		
Hose length max. (m)	400 V	138		
	230 V / 3 phase	93		
	230 V / 1 phase	48		
Temperature of material to be applied (°C)		50 - 100		
Air consumption at bei 4 $\frac{l}{min}$ displacement ( $\frac{l}{min}$ )		1200 at 8 bar		
Electric connection				
Rated voltage max. (V)		400	230	
Phases		3	3	1
Rated current max. (A)		25	42	63
Number of hose pack- ages	L1 (15m)	2	2	3
	L2 (15m)	2	2	-
	L3 (15m)	2	2	-
Emitted sound pressure level at the work place				
in idle mode (L <sub>pAd</sub> ) (dB)		84		
under load (L <sub>pAd</sub> ) (dB)		80		
Dimensions - length / width / height (mm)				
Version with feed pumps		990 x 730 x 1410		
Version with feed pumps and hose bracket		1140 x 730 x 1470		
Version with feed drum		1400 x 750 x 1410		
Version with feed drum and hose bracket		1550 x 750 x 1470		

	Version with pneumatic motor
Spray gun (optional)	
max. operating pressure (bar)	240
min. air inlet pressure (bar)	5,5
max. air inlet pressure (bar)	9
min. material flow (kg/min)	0,6
max. material flow (kg/min)	18
max. fluid temperature (°C)	93
Compressed air connection	¼" G, quick release coupling
Connection of Iso component	¼" NPSM
Connection of Poly component	M14 x 1,5
Dimensions - length / width / height (mm)	17,15 / 6,67 / 10,8
Weight (kg)	1

## 14.2 Type plates

Type plate on plant control cabinet, (Fig. 14.1).  
Please check that the type plate data are identical with those on the machine card.  
In case of **discrepancies** or if the type plate is **missing** please **notify** us immediately.

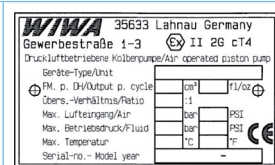


Fig. 14.1

Type plate at the plant control cabinet, (Fig. 14.2).  
Before connecting the unit to the mains supply, check whether the prescribed electrical data complies with that available at the installation site.

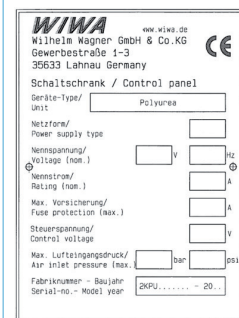


Fig. 14.2

## 14.3 Factory default settings

Designation		Factory default setting
Unit of temperature display		°C
Unit of volume display		l
Volume factor		0,264
Unit for pressure display		bar
NOMINAL temperature for Poly + Iso + hose		85 °C
Pressure settings	max. switch-off	250 bar
	Scaling	250 bar
	Monitoring is activated at	50 bar
	Pressure differential	20 bar / 2 s

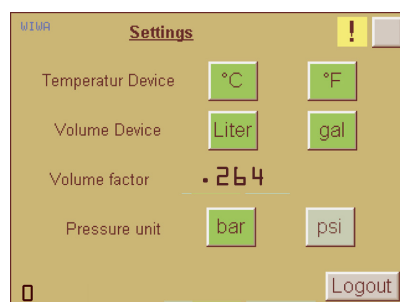
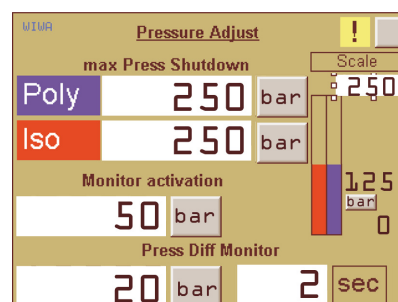


Fig. 14.3



## 14.4 Operating means

Designation	Order-number
Separators	0640616 (0.5l) / 0633538 (5l)
Multi-purpose grease for spray gun (0.085kg)	0654576
Retention agent (0.05l)	0000015
Lubricant (acid-free grease, 0.4kg)	0000025
Anti-freeze agent (0.5l)	0631387
Pneumatic oil (0.5l)	0632579

## 14.5 Tools

The tool does not belong to the scope of delivery of the equipment, but can be purchased optionally after consultation with **WIWA®**.

Designation	Number	Size	Assembly to / on
Open end spanner	1	SW 17	Compressed air line to spray gun
	1	SW 19	Return flow / distributor
	1	SW 22	Material hoses / spray gun
	1	SW 30	Return flow hoses / material drum
Tool set for spray gun	1	-	Connection block / spray gun Order-No. 0654521

## 14.6 Accessories

The accessories do not belong to the scope of delivery of the equipment, but can be purchased optionally after consultation with **WIWA®**.

	Order No.	Description
	0654652	Hose bracket mounting kit for 15 m, 30 m, 45 m hose package
	0654696	Hose bracket mounting kit for 60 m, 75 m, 90 m hose package
	0654481	Diaphragm pump
	0654897	Piston pump 2:1
	0654676	Mounting kit with stainless steel container
	0654688	Mounting kit relief

	Order No.	Description
	0654689	Mounting kit circulation
	0654943	Mounting kit silicagel filter for feed pump without return flow
	0654954	Mounting kit silicagel filter for feed pump with return flow
	0654457	Mounting kit USB-port
	0654671	Protection hood for control cabinet
	0654522	Reverse flow spray gun
no picture	0654784	Protective hose, black with velcro closure, without insulation for hose package
no picture	0654785	Contamination protection, transparent, for hose package
no picture	0654896	Heating sleeve for 200 l drum
no picture	0654435	Protective film for small display
no picture	0654436	Protective film for large display
no picture	0653560	Counterflow gun (Probler P2)
no picture	0654523	Mounting kit for spray gun connecting nipple 0653560



	Order No.	Description
no picture	0000264	Protective suit paper size L
no picture	0000347	Protective suit paper size XL
no picture	0000377	Protective suit paper size XXL
no picture	0000287	Respiratory protection mask type 3M
no picture	0000393	Filter against organic / inorganic vapours for respiratory protection mask type 3M
no picture	0000286	Visor protection film for respiratory protection mask type 3M

## 14.7 Instruction Certificate

This certificate follows the EC-Directive for working utensils 85/655/EEC, section II article 7.

The owner of the device specified below has instructed the operating personnel.

Manufacture	
Type designation	
Year of construction	
Serial-number	

The instruction was conducted by the representative of the owner:

Foreman or responsible superior, name, department	
---	--

The instructed person has read and understood the user manual for the equipment listed above, especially the chapter about safety, and declares that he is able to operate the unit in a safe way.

Personnel for:	Date, name
Operation	
Repair and maintenance	
Electrics / electronics	





because it works

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